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Vol. II

TRANSCRIPT OF RECORD

Supreme Court of the United States

OCTOBER TERM, 1936

No. 36

SAMUEL B. SMITH, PETITIONER,

vs.

JAMES MANUFACTURING COMPANY AND ELMIRA HATCHERIES, INCORPORATED

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE SECOND CIRCUIT

PETITION FOR CERTIORARI FILED APRIL 21, 1936.

CERTIORARI GRANTED MAY 25, 1936.

VOL. II

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VOL. II.

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JUDD & DETWEILER (INC.), PRINTERS, WASHINGTON, D. C., AUGUST 7, 1936.

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Assignment

Know All Men By These Presents, That, the undersigned, The Buckeye Incubator Company of Springfield, Ohio, being the owner of the title of United States letters patents No. 1,262,860, to Samuel B. Smith, dated April 16th, 1918, for incubator, and letters patent No. 1,263,138 to said Smith, dated April 16th, 1918, for incubator and of letters patent of the United States No. 1,543,130 to said Smith dated June 23rd, 1925, for incubator.

In consideration of one dollar in hand paid, and other valuable considerations, does hereby sell, assign, transfer and set over unto said Smith his heirs and assigns, all its right, title and interest in and to said letters patent and each of them and the several inventions thereof to be held and enjoyed by the said Smith, his heirs and assigns, as fully and completely as the same would have been held and enjoyed by said The Buckeye Incubator Company has this assignment not been made, together, also, with the right of recovery of damages and profits for past infringement.

Subject, however, to the license back from said Smith to said The Buckeye Incubator Company of even date herewith and the provisions of a certain agreement between the said parties, both of even date herewith, to which license and agreement reference is hereby made and the same are made part hereof as though incorporated herewith.

[fol. 996] In Witness Whereof, the said The Buckeye Incubator Company has hereunto set its hand by its President hereunto duly authorized and has affixed its corporate seal attested by its Secretary, at Springfield, the State of Ohio, on this 29th day of April, A. D. 1927.

The Buckeye Incubator Company, by A. R. Hill, President, by R. A. Essex, Secretary. (Seal.)

PLAINTIFF'S EXHIBIT No. 33

(Copy)

License

Know All Men By These Presents, That, I, Samuel B. Smith, of Cleveland, Ohio, being the owner, by a proper instrument in writing even date herewith, of letters patent of the United States No. 1,262,860, to said Smith dated April 16th, 1918, for Incubator, of letters patent of the United States No. 1,263,138 to said Smith, dated April 16th, 1916, for Incubator, and of letters patent of the United States No. 1,543,130 to said Smith, dated June 23rd, 1925, for Incubator and the inventions thereof and each of them.

In Consideration of One Dollar ($1.00) in hand paid, and [fol. 997] other valuable considerations, does hereby give and grant unto The Buckeye Incubator Company, a corporation of the State of Ohio, having an office and place of business at Springfield, Ohio, its successors and assigns, the full and exclusive right, liberty and license to make, use and sell in and throughout the United States and the territories and possessions thereof incubators embodying the inventions shown described and claimed in said letters patent and each of them, and any improvements now or hereafter owned by the Licensor.

Provided, however, that it is mutually understood and agreed that:

The exclusive license hereby granted is limited to and includes only incubators in which the total egg and chick holding capacity of all trays of whatsoever character including such incubating, hatching, and nursery trays as may be placed in the incubator, shall not exceed sixteen thousand five hundred (16,500) eggs (meaning ordinary hen eggs as commonly understood in the trade and by the parties hereto) and that this license hereby granted is subject to and is under the provisions as to royalties, limitations, etc., and the provisions as contained in a certain agreement of even date between said Smith and said Company, to which agreement reference is hereby made, and the same so far as applicable hereto is made part hereof to the same force and effect as though incorporated herewith.

It being understood and agreed also that the license hereby granted is for the balance of the term of said letters patent number 1,262,860 or until said patent No. 1,262,860 is terminated by decision of a proper court of last resort or [fol. 998] United States District Court holding the patent invalid unappealed from by the said licensor, his successors and assigns.

In Witness Whereof, the said Samuel B. Smith has hereunto set his hand this 29th day of April, 1927.

Samuel B. Smith.

PLAINTIFF'S EXHIBIT No. 34

Executed in Duplicate

Contract Between Samuel B. Smith and The Buckeye Incubator Company

This Agreement between Samuel B. Smith, of Cleveland, Ohio, and The Buckeye Incubator Company (an Ohio corporation hereinafter designated as the "Company"), having been entered into between said parties in lieu of and as a substitution for three (3) existing agreements between the same parties, dated, respectively, January 4th, 1917, March 9th, 1918 and January 2nd, 1923.

Witnesseth:

1

Patent Assignments and Licenses

The United States Letters Patent No. 1,262,860, No. 1,263,138 and No. 1,543,130, heretofore granted to said Smith and [fol. 999] under the provisions of the prior agreements assigned to said Company, shall be reassigned to said Smith, his heirs, or assigns, by proper and legal instruments of assignment, bearing even date herewith. Said Smith shall, by proper istruments of even date herewith, grant to said Company, its successors and assigns, the exclusive license to manufacture incubators under said United States and Canadian patents and any improvements thereunder, during the life of such of the patents as cover features which the Company embodies in the manufacture of its incubators and con-

tinues to use after the expiration of patent number 1,263,560 to a total tray capacity of sixteen thousand five hundred (16,500) eggs. The title to any foreign patents (corresponding to the above United States and Canadian patents) shall remain in the Company as at present.

2

Definition of "Incubator Capacity"

The term "incubator capacity" as used in this agreement shall be understood to mean the total tray capacity of the incubators, to-wit, the total egg-and-chick-holding capacity of all trays of whatsoever character as may be placed in the incubator, including incubating, hatching, and nursery trays.

In determining the capacity of the Company's incubators it is agreed by the parties hereto that the size and total area of the trays of the No. 7 incubator as now constructed by the Company is forty-one thousand nine hundred and sixty-four [fol. 1000] (41,964) square inches and has a total capacity of thirteen thousand eight hundred and twenty-four (13,824) eggs and that the size and total area of the trays of the No. 34 as now constructed by the Company is fifty thousand seven hundred and forty-three (50,743) square inches and has a total capacity of sixteen thousand one hundred and twenty-eight (16,128) eggs.

The standard of determination of "incubator capacity" of future models shall be upon the basis of three and nine hundredths (3.09) square inches tray area per egg; present models are not affected by this provision.

3

Royalties and Terms of Payment

The Company shall pay to said Smith a royalty of five per cent (5%) of the sale price upon all incubators manufactured, sold and shipped under said license, on all sizes less than the type known as the present Number Seven (No. 7) which has a tray capacity of thirteen thousand eight hundred and twenty-four (13,824) eggs. Upon such sizes less than said present Number Seven (No. 7) and generally known as the smaller sizes, the said five per cent (5%) royalty shall be paid upon the Company's list price less published discounts, and shall be due and payable quarterly

upon all incubators sold and shipped during the preceding quarter. The quarterly periods shall be considered as ending on the last day of January, April, July and October of each year, and remittance for accrued royalties shall be [fol. 1001] made on or before fifteen days after the end of each quarter.

The Company shall pay as royalty under said license upon any incubator of total tray capacity between thirteen thousand two hundred and fifty (13,250) eggs, and fourteen thousand (14,000) eggs the sum of One Hundred Dollars ($100.00) per machine sold and shipped; upon any incubator of a total tray capacity between fourteen thousand (14,000) eggs and fifteen thousand (15,000) eggs, the Company shall pay as royalty One Hundred and Twenty-five Dollars ($125.00) per machine sold and shipped; upon any incubator having a total tray capacity in excess of fifteen thousand (15,000) eggs, and up to and including a total tray capacity of sixteen thousand five hundred (16,500) eggs, a royalty of one hundred and fifty dollars ($150.00) per machine sold and shipped. Payments of said last named flat royalties covering incubators having a total capacity of thirteen thousand eight hundred and twenty-four (13,824) eggs and over shall be made quarterly as above provided in the case of the percentage royalties. The Company agrees to notify Smith in writing of any change in the retail prices of its incubators at the time such change is made known to the public and becomes effective.

All payments of royalties shall be accompanied by an itemized statement attested by a duly authorized officer of the Company, giving the dates of sale, purchasers' names and addresses, sizes and types of incubators and prices at which same are sold and licensor or his duly authorized agent shall have the right to verify said statements by an inspection of licensee's books of account pertaining thereto [fol. 1002] upon reasonable notice. Any royalties not paid when due shall bear interest at the rate of six per cent (6%) per annum. The scale of royalties herein provided shall become effective May 1st, 1927. The scale of royalties for all incubators sold and shipped prior to May 1st, 1927, shall be the same as now in force and as set forth in the agreement of January 2nd, 1923, and nothing in this contract shall be considered as relieving the Company from paying the accrued royalties from incubators sold and shipped

prior to May 1st, 1927. In the case of machines which may have been sold prior to May 1st, 1927, but are not shipped until or after May 1st, 1927, it is understood and agreed that the above provided new scale of royalties shall apply and be paid.

4

Limitation of Manufacture of Other Sizes

Said Smith agrees, for himself, his heirs, and assigns, not to make, use or sell, or permit to be made, used or sold by others than the Company under said patents, any incubators of a total capacity up to twenty-five thousand (25,000) eggs; it being understood that the said Smith retains his exclusive rights for making, using and selling incubators having a total capacity of twenty-five thousand (25,000) eggs and over. The Company, for itself, its successors and assigns, agrees not to make, use or sell, or permit to be made, used or sold by others any incubators under said patents of a total capacity between sixteen thousand five hundred (16,500) eggs and twenty-five thousand (25,000) eggs. It is the [fol. 1003] purpose and intent of this agreement that the Company shall hereafter in the United States and Canada, have the exclusive right to manufacture incubators under said patents up to and including a capacity of sixteen thousand five hundred (16,500) eggs, and said Smith shall have the exclusive right to manufacture incubators under said patents with a total capacity of twenty-five thousand (25,000) eggs and over; and that in the zone between sixteen thousand five hundred (16,500) egg capacity and twenty-five thousand (25,000) egg capacity, neither of the parties hereto shall make, use or sell, or permit to be made, used or sold, incubators under said patents.

5

Infringement

Said Smith shall have the right to and shall prosecute all infringers, shall pay all the expense of such prosecution and shall receive all recoveries therefrom, except as to pending suits in which the Company shall have incurred expense, in which cases the expense shal be reimbursed to the Company from any recoveries from said suits. In the

event said Smith shall not, upon request of the Company, prosecute infringers, the Company shall have the right to prosecute them, and to join the said Smith as the owner of said patents in such prosecution and in such event the Company shall be entitled to all recoveries and shall pay all expense. It is understood that any attempt of a customer to increase the egg capacity of any incubator beyond sixteen thousand five hundred (16,500) eggs shall be a matter of mutual concern and interest to both parties hereto, and [fol. 1004] shall be considered an infringement by such customer of the license granted by said Smith, and said Smith shall have the right to prosecute such customer for such infringement, in which prosecution the Company shall render all necessary assistance at the expense of said Smith.

6

Default

Should the Licensee at any time default in the payment of the royalties herein called for, Licensor will so notify it in writing and should Licensee fail for sixty (60) days after receipt of such notice to pay said royalties Licensor at its option may declare this contract terminated and avoided.

Should Licensor at any time claim that Licensee had breached this contract by manufacturing or selling under this license incubators of greater capacity than sixteen thousand five hundred (16,500) eggs (as herein defined) it shall give written notice of such alleged default to Licensee. Within thirty (30) days after receipt of such notice Licensee may request arbitration of the question involved. Such arbitration shall be held pursuant to the provisions of the United States Arbitration Act approved February 12th, 1925, and the award shall be made by three arbitrators, one to be chosen by each of the parties hereto within ten (10) days from receipt of notice of request for arbitration and the third to be chosen by the two within twenty (20) days. If the two arbitrators selected by the parties cannot within twenty days (20) agree upon a third arbitrator he shall be chosen by the Chief Justice of the Ohio Supreme Court.

[fol. 1005] The award of such arbitrators shall be final and binding upon the parties. If the arbitrators find such a breach of this contract to have been committed by the Licensee they shall fix the amount of the damages resultant therefrom to the Licensor and shall further order a discontinuance of the manufacture and sale of such offending incubators. Licensee shall thereupon have ninety (90) days' time in which to pay the damages so awarded and to discontinue the manufacture and sale of such offending incubators; and if said Licensee shall fail to do either then the Licensor may declare this contract terminated and voided. But such arbitration, award, and non-compliance therewith for ninety (90) days are expressly made conditions precedent to Licensor's right to terminate this contract.

Should either party hereto claim that the other party has breached this contract in any other respect than above noted, the party so claiming shall give written notice of such alleged default to the other party, who, within thirty (30) days after the receipt of such notice, may request arbitration of the question involved. Such arbitration shall be conducted in all resjects as above provided.

The award of such arbitrators upon such question shall be final and binding upon the parties. If they find a breach of the contract to have been committed they shall fix and determine the amount of damages resultant to the injured party therefrom; and they shall further order such breach to be discontinued. Thereupon the offending party shall have ninety (90) days' time in which to pay said damages and to discontinue such breach and if they faid to do so [fol. 1006] within said period then the injured party may declare this contract terminated. But such arbitration, award, and non-compliance therewith for ninety (90) days are expressly made conditions precedent to said injured party's right to terminate this contract.

7

Release of Mutual Claims

This agreement having been entered into among other things for the purpose of mutually settling any pending controversies between the parties hereto, it is understood that said Smith releases the Company from all claims for damages for violation of prior contracts or infringements,

and releases any claims against any customers of said Company except as to claims based on unauthorized structural changes made by a customer. It being understood that by this contract all claims of either party against the other to this date are mutually released and discharged, except accrued royalties which may not have been paid.

This Agreement Shall Inure to the Benefit of and be Binding upon the heirs, administrators, executors, trustees, successors and asigns of the parties hereto, even where the same has not been herein specifically provided.

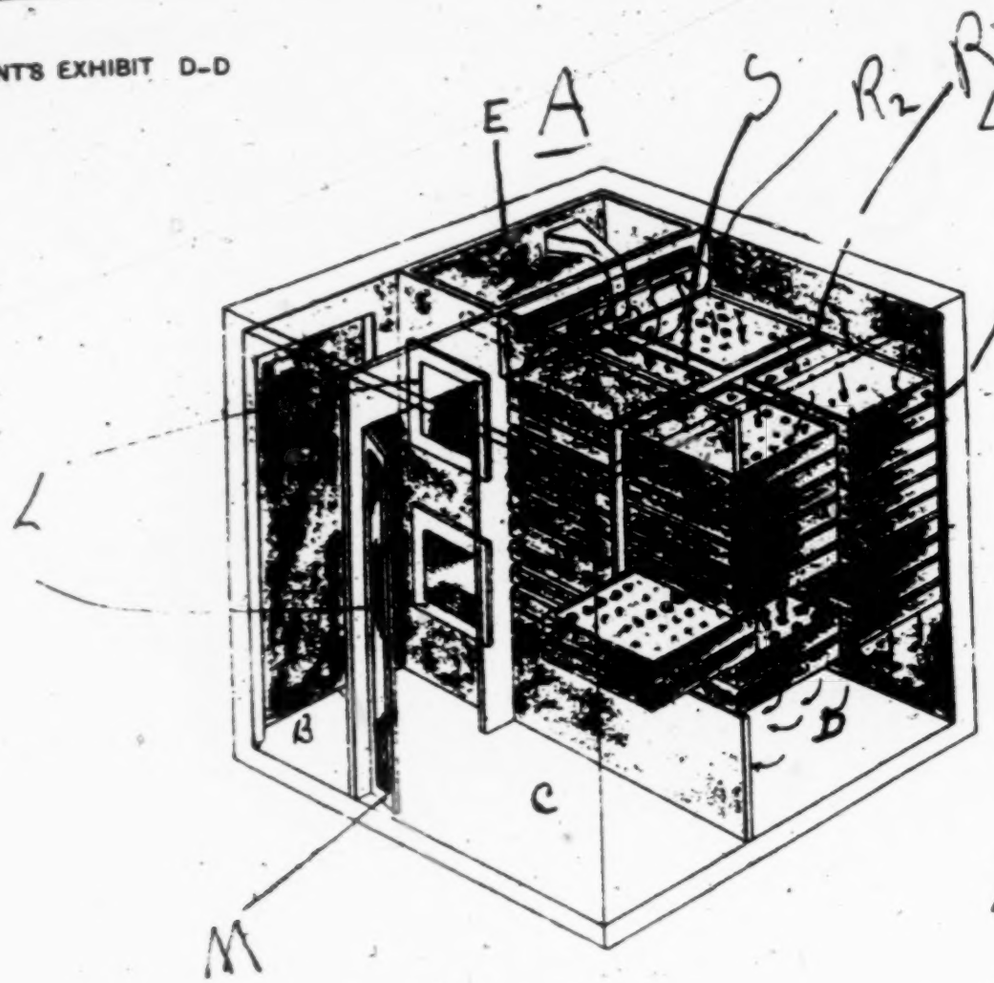
Dated at Columbus, Ohio, this 29th day of April, A. D. 1927.

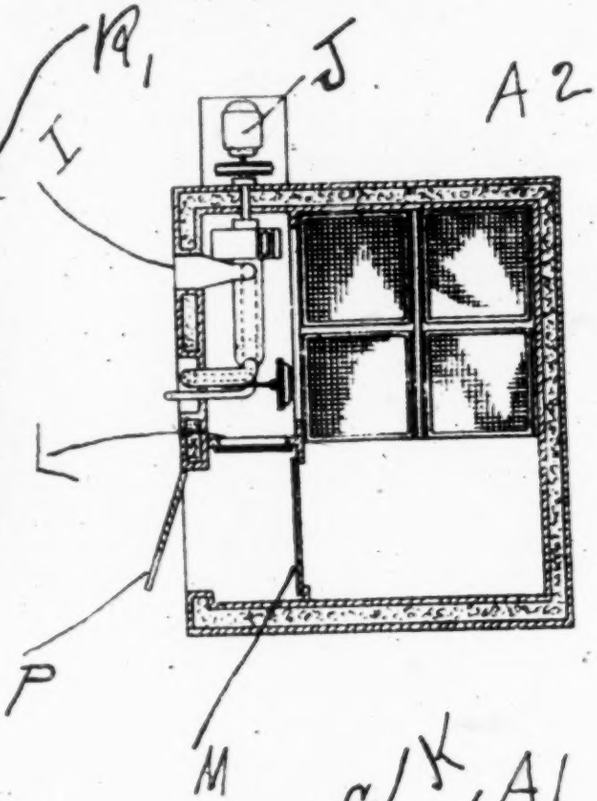
Samuel B. Smith, The Buckeye Incubator Company,
by A. R. Hill, Pres., R. A. Essex, Secy.

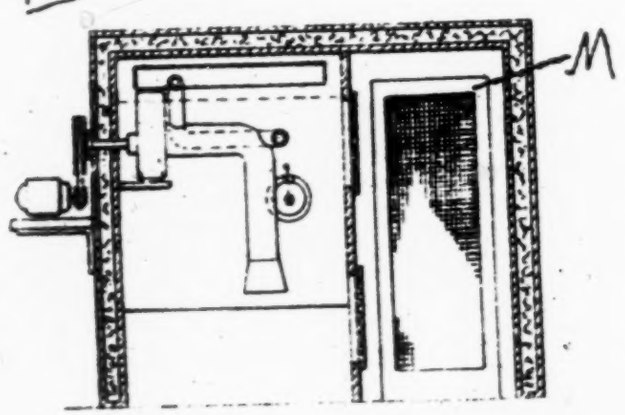
DEFENDANT'S EXHIBIT D-D

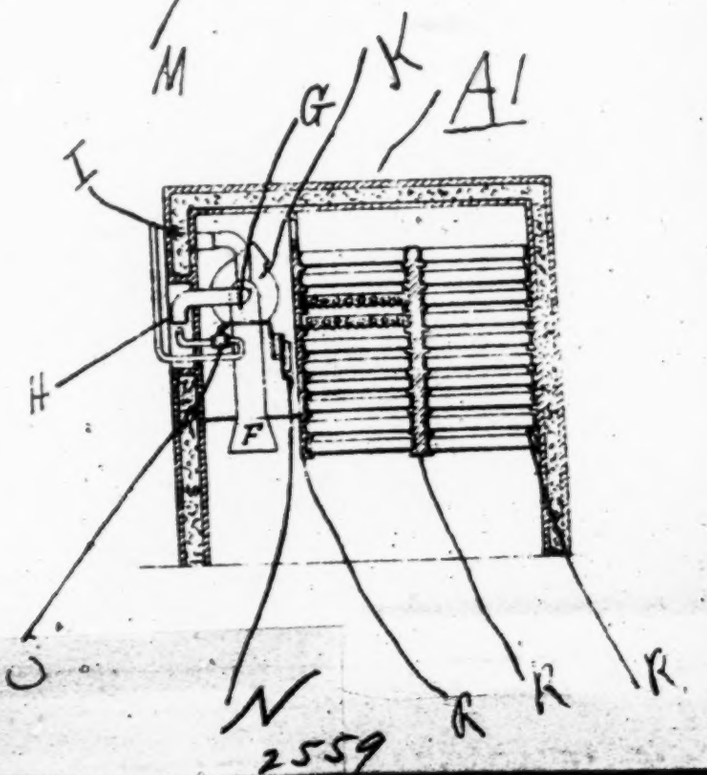
1007
PLAINTIFF'S EXHIBIT I

Davis Hatchery of 1910
Brooklyn N.Y.









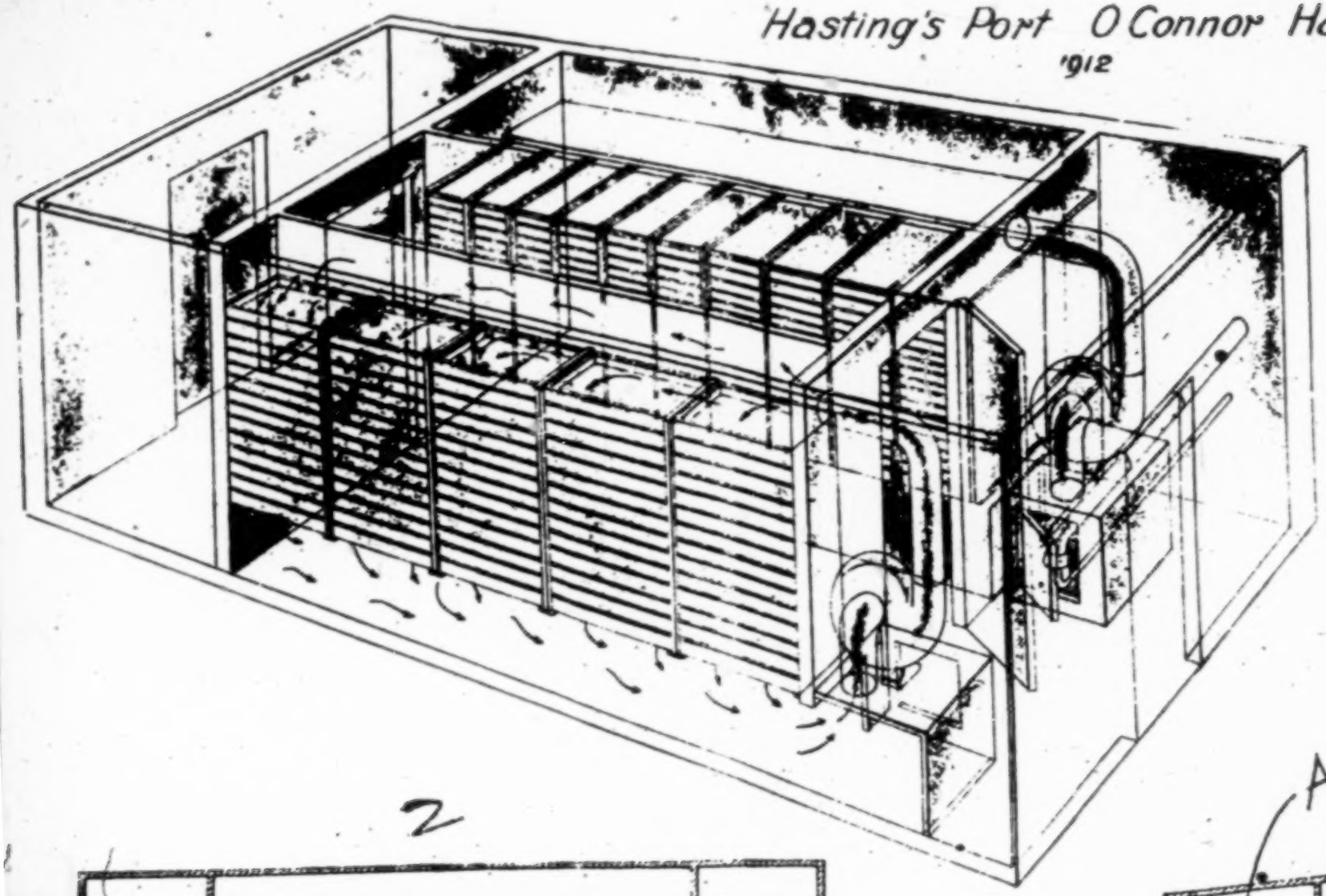
2559

DEFENDANT'S EXHIBIT D-H

1008
PLAINTIFF'S EXHIBIT

Hasting's Port O Connor Hatchery

1912



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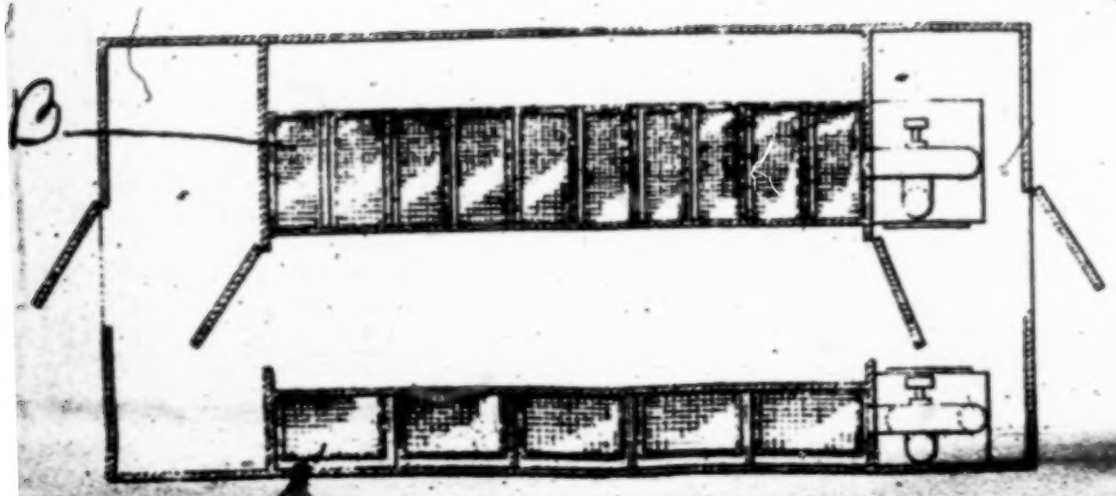

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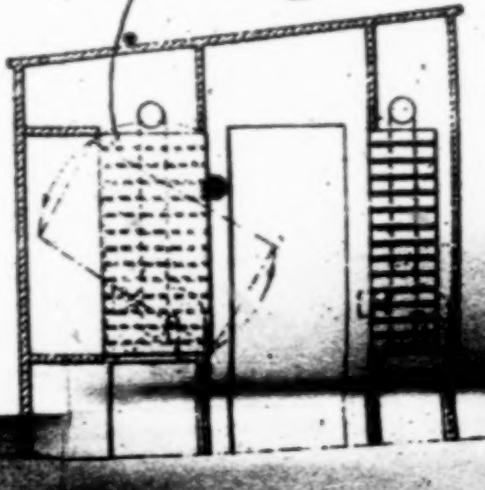
3



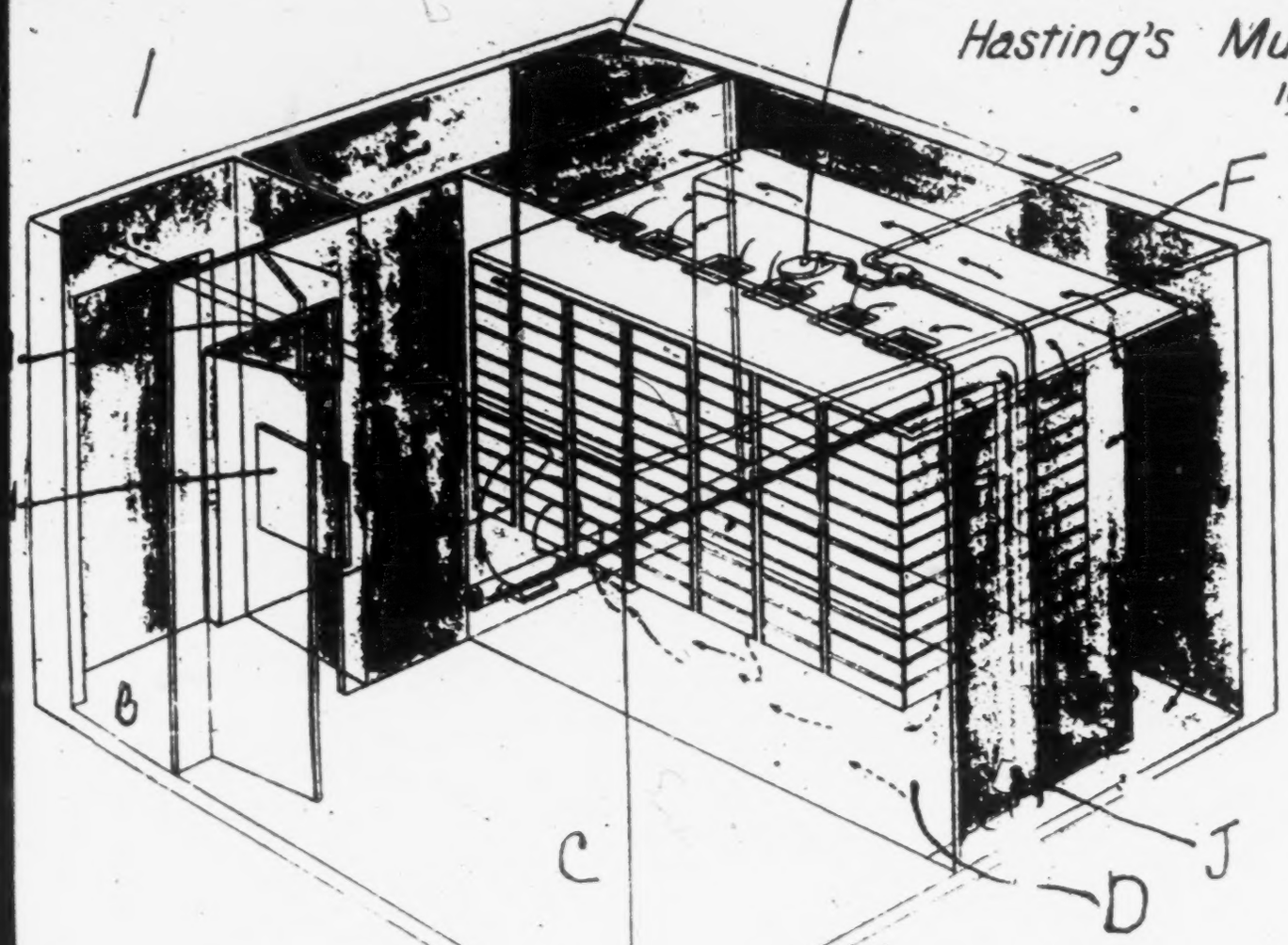
DEFENDANT'S EXHIBIT D-J

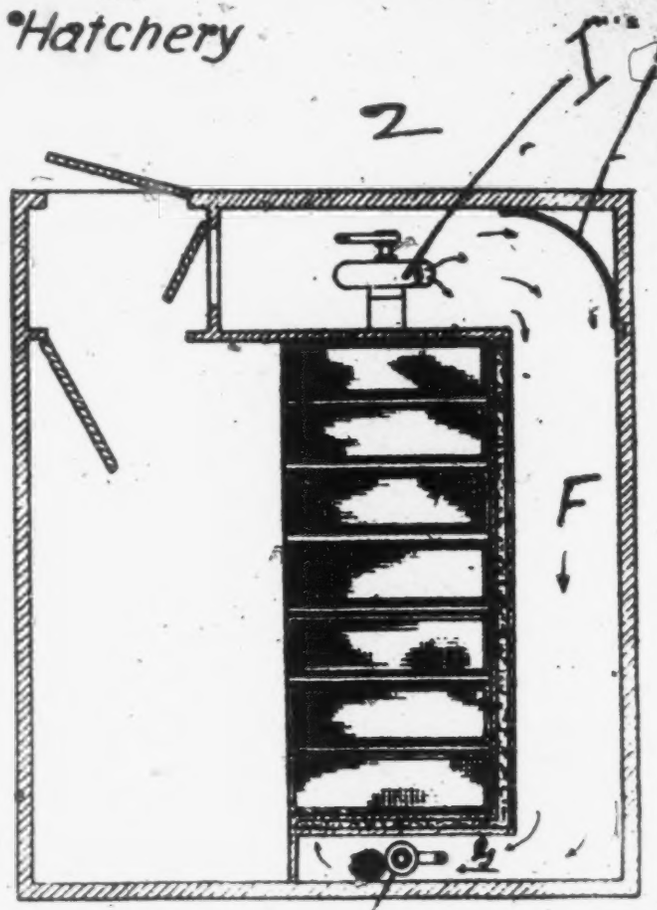
1009

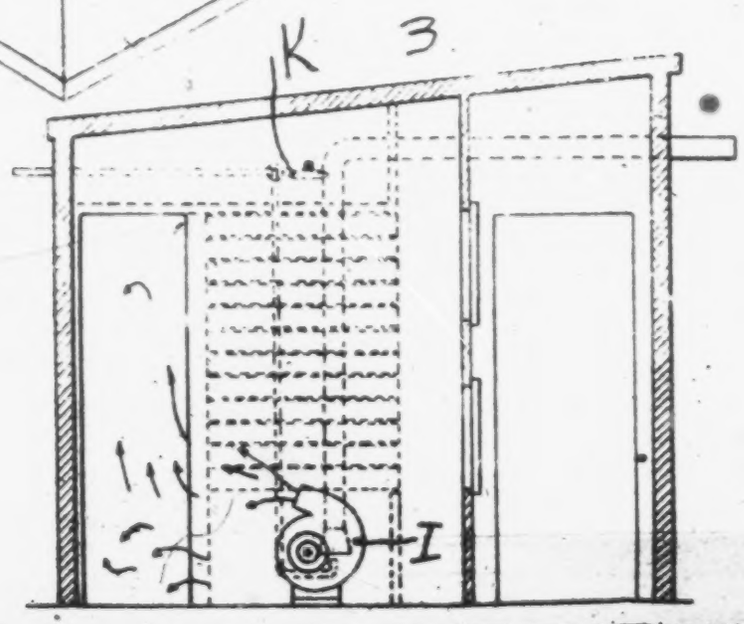
PLAINTIFF'S EXHIBIT 1

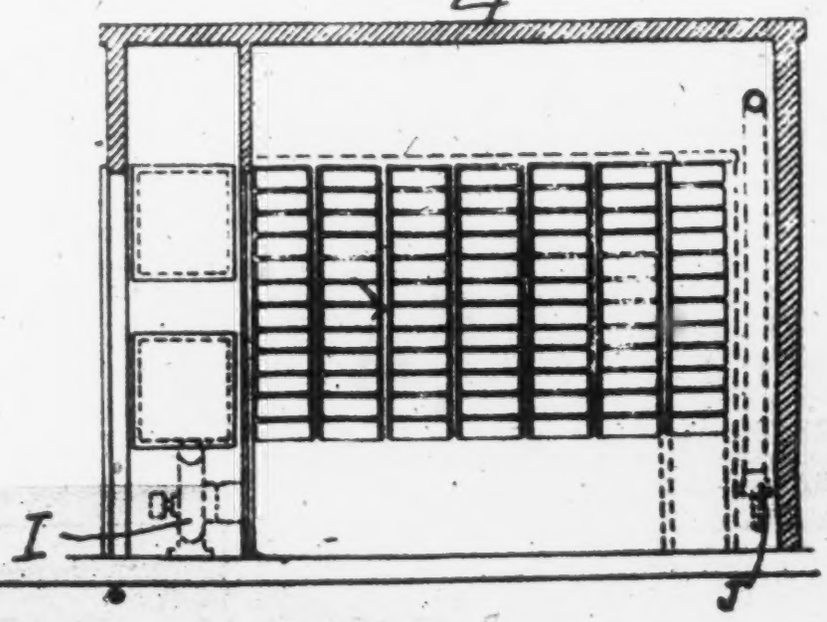
Hasting's Muskogee Hatchery

1911 - 2









PLAINTIFF'S EXHIBIT I

ENDANT'S EXHIBIT D E

DEPARTMENT OF COMMERCE

PATENT OFFICE

To all persons to whom these presents shall come, Greeting:

S TO CERTIFY that the annexed is a true copy from the records of this office of the File Wrapper, Contents and Drawing, the matter of the

Abandoned Application of

Milo Hastings,

Filed May 5, 1911, Serial Number 624,885,

for

provement in Hatchery for the Eggs of Domestic Fowl.

In Testimony Whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the City of Washington, this third day of October in the year of our Lord, one thousand nine hundred and twenty-five and of the Independence of the United States of America the one hundred and fiftieth.

Chief of Division. Thomas E. Robertson Commissioner of Patents.

1010

728

DIV. 38 — P311 — EXT'S 5000 14/2 - C

RENEW (Series of 1900).

624815 — PATENT No.

Name: Milo Hastings, Assignor to Hastings Corporation, of New York, N.Y. a corp. of New York

of Brooklyn,

County of

State of New York

Invention: Hatchery for the Eggs of Domestic Fowl.

PARTS OF APPLICATION FILED	ORIGINAL	RENEWED
Petition	April 25, 1911	, 191
Affidavit	" " , 1911	, 191
Specification	May 3, 1911	, 191
Drawing	Apr. 25, 1911	, 191
Model or Specimen	, 191	, 191
First Fee Cash	$15. Apr. 28, 1911	, 191
" " Cert	, 191	, 191
Appl. filed complete	May 3, 1911	, 191

Examined		
Allowed	For Consideration	For Consideration
Notice of Allowance	, 191	, 191
Final Fee Cash	, 191	, 191
" " Cert	, 191	, 191
Published		, 191

Attorney: Church & Church — Mark D. C.

Assistant Attorney

(No. of Claims Allowed) Title as Allowed

3

F/2

Division of App. No. , filed , 191

1011

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON

April 25, 1911.

Mr. Milo Hastings,
Kings Highway & E. 23rd Street,
Brooklyn, N. Y.

Sir:

The incomplete money order for $15.00 received with the application of Milo Hastings, is herewith returned as same cannot be accepted by this Office.

Upon receipt of complete money order the same will be applied as directed.

Respectfully,

A. L. Pope
Acting Chief Clerk.

Enclosure.

1012

730

PETITION.

[FROM RULES OF PRACTICE, U. S. PATENT OFFICE, PAGE 60, FORM 4.]

To the Commissioner of Patents:

Your petitioner, Mike Hastings

citizen subject, of the United States

and resident of Brooklyn

in the county of Kings and State of New York

whose post-office address is (or are) Kings Highway and E. 23d Street

prays that Letters Patent may be granted to him

for the improvement in a hatchery for the eggs of domestic fowl

as set forth in the annexed specification

And hereby appoint*

of , State of , , attorney,

with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent Office connected therewith.

Signed at Brooklyn in the County of Kings, and State of New York, this 5th day of April, 1912

Inventor's full name: Mike Hastings

* If no power of attorney is given, the full name of each inventor of the firm must be inserted, or it will be granted to

Note.—In the case of the assignment of the whole interest in the invention, the petition and oath must be made by the assignee, if alive, even if the patent is to issue to an assignee. If the inventor is dead, it may be made by the executor or administrator; if insane, by the guardian, conservator, or legal representative.

1013

SPECIFICATION.

To all whom it may concern;

Be it known that I, Milo Hastings, a citizen of the United States, residing at Brooklyn, in the county of Kings, and the state of New York, have invented a new and useful hatchery for the eggs of domestic fowl, of which the following is a specification:

My invention is that of a hatchery in which I secure better ventilation and a more uniform temperature throughout the hatching chamber by substituting a forced draft for gravity drafts.

I attained this end by the mechanism illustrated in the accompanying drawing. This represents a ~~vertical~~ section of the hatchery, in which A is a hatching chamber wherein are placed the eggs, B is an electric fan which is to run constantly, maintaining a steady current of air through the hatching chamber, C is a heater, D any uniform or regulated source of heat. I use a gas flame, the pressure of which is controlled by a governor, EE ar fabrics or perforated partitions for the purpose of causing an even horizontal distribution of air throughout the hatching chamber.

I believe it to be best to cause the air to enter the hatching chamber from above, but my invention is not limited to any particular circulation or movement of the air and by the use of the fan, the gravity drafts may be overcome and the air caused to move in any desired direction.

1014

Ventilation I secure through cracks around the door of the hatching chamber or other small openings in any part of the air circuit. The air being constantly in motion, requires less rejuvenation than dead air.

The part of my apparatus that is new, and which has not before been used in connection with hatching devices, is that of the fan, and this I maintain to be of distinct utility in securing uniform ventilation and an even temperature throughout all parts of the hatching chamber.

I claim: The combination in a hatchery for the eggs of domestic fowl, of a ~~room or~~ chamber for holding eggs to be incubated and a ~~fan, pump, or~~ other mechanical device with moving parts for causing a circulation of air in or through such chamber.

Milo Hastings

Witnesses: Edgar Chamberlain
Jeannette Loben

1015

OATH

To accompany an application for United States Patent.

I, Mils Hastings

the above-named petitioner, being sworn (or affirmed), depose and say that he is a citizen of the United States

and resident of Kings Highway and E. 23d Street, Brooklyn, New York

that he verily believes himself to be the original, first, and sole inventor of the improvement in a hatchery for the eggs of domestic fowl

described and claimed in the annexed specification; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof, or more than two years prior to this application, or in public use or on sale in the United States for more than two years prior to this application; that said invention has not been patented in any country foreign to the United States on an application filed by me or my legal representatives or assigns more than twelve months prior to this application; and that no application for patent on said improvement has been filed by me or my representatives or assigns in any country foreign to the United States, except as follows:

Oath filed 4/24/11

Inventor's full name: Mils Hastings

Sworn to and subscribed before me this 24th day of April, 1911

J. P. Gannon
(Signature of judge or notary.)

Notary Public # 8
(Official character.)

[Seal.]

1. If the inventor be dead, the oath will be made by the administrator; if insane, by the guardian, conservator, or legal representative. An infant over the address will declare his belief that the party named as inventor was the original and first inventor.
2. If the applicant be alien, state of what foreign country he is a citizen or subject.
3. Give residence address in full; as "a resident of ——, in the county of —— and State of ——," or "of No. —— street, in the city of ——, county of —— and State (Kingdom, Republic or Empire) of ——."
4. "Citizen of ——" or "alien."
5. Specification of invention.
6. Name each country in which an application has been filed, and in each case give date of filing the same. If no application has been filed, strike out the words "except as follows."
7. All erasures must bear the signature of the affiant.
8. "Where the person before whom the oath or affirmation is made is not provided with a seal, his official character shall be established by some public document, as by a certificate from a clerk of a court of record or other proper officer having a seal." A certificate of the official character of a magistrate, stating date of appointment and term of office, may be filed in the Patent Office, which will obviate the necessity of separate certificates in individual cases.
When the oath is taken abroad before a notary public, judge, or magistrate, his authority should in each instance be proved by a certificate of a diplomatic or consular officer of the United States.

1016

734

CBA

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON

April 28, 1911.

Sir:

I have to acknowledge the receipt of your informal application for patent, the title of which is improvement in Hatchery for the Eggs of Domestic Fowls.

This application is informal because you have failed to sign the specification, when signed, your signature must be attested by two witnesses, papers are accordingly returned herewith.

The government filing fee of $15 is also required.

This application must be completed within one year from the above date.

Very respectfully,

E. B. Williams

Commissioner of Patents.

Milo Hastings,
Kings Highway & E. 23rd St.,
Brooklyn, N.Y.

Note.—In order to constitute an application for a patent, the inventor is by law required to furnish his petition, specification, oath, and drawings (where the nature of the case admits of drawings) and to pay the required fee.

No application is considered complete, nor can any official action be had thereon, until all the parts, as here specified, are furnished in due form by the inventor or applicant.

Insert name at top & seal.

1017

Div. 31 Room 978 MED A LDH Paper No. 2

735

Address only "The Commissioner of Patents, Washington, D. C."

All communications regarding this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON May 26, 1911.

933

Milo Hastings,

King's Highway and E. 23rd St.,

Brooklyn, N.Y.

Please find below a communication from the EXAMINER in charge of your application.

Ser. No. 624,885, filed May 8, 1911: Hatchery for the Eggs of Domestic Fowl.

E. B. Moore

Commissioner of Patents.

Since the oath filed bears no venue, applicant must either file a new oath in proper form or else furnish a certificate from the notary who administered the oath, in accordance with the practice recited in ex parte Delavoye, 124 O.G., 626.

In line 14 of page 1 the word "vertical" is misspelled. In line 15 the words -"the eggs" should be canceled and inserted before "are".

The claim is informal as being alternative in form and applicant should cancel the words "room or" in line 2 and the phrase "or.....moving parts".

The claim is rejected on

Hawkins, 725,079, April 14, 1903,
Class 43, X-ref. or
Osborne, 886,325, April 28, 1908,

It is considered that applicant's arrangement is merely the double use of the arrangement there shown and that there is no particular combination between the forced draft and an incubator since various forms of natural draft passages are shown in the well known forms of incubator.

G. B. Ide,
Exr.

Exhibit D.

716

736

MILO HASTINGS
134 E. 39th ST
NEW YORK CITY

624,885 filed

June 19, 1911.

Commissioner of Patents,

Washington, D.C.

Sir:

Refering to paper No. 2, Ser. No. 624,885, filed May 8, 1911: Hatchery for the Eggs of Domestic Fowl—

If you will send me an additional blank, I will file a new oath as suggested.

I authorize you to correct the spelling of the word "vertical" in line 14, and to transfer the words "the eggs" inserting same before "are" in line 15, page 1 of the specification.

I authorize you to eliminate the alternative features of the claim by striking out the words "room or" in line two and the words "fan, pump, or other" in lines three and four.

I maintain that the rejection on
Hawkins, 725,079, April 14, 1903,
Osborne, 886,325, April 28, 1908,
is beside the point. These patents refer to the use of forced ventilation for purposes unrelated to incubation. The use of a forced draft in combination with an incubator I contend to be patentable, as it is a distinctly new use of a well known mechanical device, which in its new use required invention to reach and which has distinct utility.

To contend that the new use is not patentable because passages for natural drafts exist in well known types of incubators is unsound; thousands of well known patents including the two cited by your examiner would be thrown out by a similar line of reasoning. There are scores of existing incubator patents based upon the form of these natural draft passages, and I maintain that the introduction of a device for generating a force draft to be of far greater uniqueness and utility than the varying designs for utilising natural drafts.

For the reasons above given, I beg for a re-examination of my application.

Respectfully yours,

Milo Hastings

1019

Rev. 28 Form 172

Address only "The Commissioner of Patents, Washington, D. C."

Paper No. 6

All communications regarding this application should give the serial number, date of filing, and name of inventor.

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON July 18, 1911.

Milo Hastings,

Kings Highway and East 23rd Street,

New York, N. Y.

Please find below a communication from the EXAMINER in charge of your application.

Ser. No. 634,885, filed May 23, 1911, for Hatchery for the Eggs of Domestic Fowl.

E. B. Moore

Commissioner of Patents.

In response to the communication filed June 20, 1911.

A blank for the new Oath required is herewith enclosed.

The claim is again rejected on Hawkins or Osborne of record for the reasons stated. This rejection is made final under the decision in Ex parte Miller, 139 O. G. 730 and applicant's appeal lies to the Board of Examiners-in-Chief.

G. R. Ide,

Ex.

1020

738

MILO HASTINGS
134 E. 39th ST
NEW YORK CITY

624,885 5
Oath

July 22 19

Commissioner of Patents
Washington D.C.

Sir:

Inclosed is a new oath for Application 624,885, filed May 3, 1911 - Hatching for the Eggs of Domestic Fowl. as per your communication of May 26, 191

Respectfully yours
Milo Hastings

1021

739

OATH.

... to accompany an application for United States Patent.

PATENT OFFICE

State of New York
County of New York } ss:

Milo Hastings

the above-named petitioner, being sworn (or affirmed), deposes and says that he is a citizen of the United States of America; and resident of Kings Highway and East 23d street in the Borough of Brooklyn City of New York, county of Kings, State of New York, that he verily believes himself to be the original, first, and sole inventor of the improvement in "A hatchery for the eggs of domestic fowl" described and claimed in the annexed specification; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof, or more than two years prior to this application, or in public use or on sale in the United States for more than two years prior to this application; that said invention has not been patented in any country foreign to the United States on an application filed by him or his legal representatives or assigns more than twelve months prior to this application; and that no application for patent on said improvement has been filed by him or his representatives or assigns in any country foreign to the United States, except as follows:

(Be acknowledgment may be made by any attorney appearing for applicant.)

Inventor's full name: Milo Hastings

Sworn to and subscribed before me this 21st day of July, 1914

J. J. Galvin
(Signature of notary or attorney.)
Notary Public # 8
New York

1. If the inventor be dead, the oath will be made by the administrator; if insane, by the guardian, committee, or legal representative. If in either case the affiant will declare his belief that the party named as inventor was the original and first inventor.
2. If the applicant be an alien, amend "the United States of America," and state of what foreign country he is a citizen or subject.
3. Give residence address in full; as "a resident of ——, in the county of ——, and State of ——," or "at No. —— street, in the city of [illegible] county of ——, and State (Kingdom, Republic, or Empire) of ——."
4. "Sole" or "joint."
5. Insert title of invention.
6. Name each country in which an application has been filed, and in each case give date of filing the same. If no application has been filed, erase the words "except as follows."
7. All oaths must bear the signature of the affiant.
8. " * * * When the person before whom the oath or affirmation is made is not provided with a seal, his official character shall be established by competent evidence, as by a certificate from a clerk of a court of record or other proper officer having a seal."
(a) The application papers must be attached together with a ribbon or tape, the ends of which must be brought together under the seal before the latter is affixed and impressed; or, each sheet must be impressed with seal, or initialed by the officer. The drawing must not be attached to the papers.
When the oath is taken abroad before a notary public, judge, or magistrate, his authority should in each instance be proved by a certificate of a diplomatic or consular officer of the United States.

1022

740

Address only "The Commissioner of Patents, Washington, D. C." 378 LDH Paper No. 6

All communications regarding this application should give the serial number, date of filing, and title of invention.

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON Aug. 14, 1911.

Milo Hastings,

Kings Highway and 23rd St.,

Brooklyn, N.Y.

Please find below a communication from the EXAMINER in charge of your application.

Ser. No. 624,885. Filed May 3, 1911: Hatchery for the Eggs of Domestic Fowl.

E. B. Moore

Commissioner of Patents.

In response to the communication filed July 24, 1911:

The new oath required has been received.

The application stands under final rejection of the date of July 15, 1911, and periods within which applicant must act will commence with that date.

G. R. Ide

Ex.

1023

Pow Atty

Hon. Commissioner of Patents,

Sir:

I hereby appoint Messrs. Church & Church (a firm composed of Melville Church and Joseph B. Church) of Washington, D. C., as my attorneys in the matter of my application Serial No. 634,885, filed May 3, 1911, Improvements in Hatcheries for the Eggs of Domestic Fowl, with full power of substitution and revocation, to prosecute said application, to make alterations and amendments therein, to receive the patent and to transact all business in the Patent Office connected therewith.

Milo Hastings

1024

742

IN THE UNITED STATES PATENT OFFICE.

Milo Hastings;

Hatchery for Eggs of Domestic Fowl;

Filed May 3, 1911;

Serial No. 624,885.

BOOK 278

Hon. Commissioner of Patents,

Sir:-

In reply to Office letter of July 18, 1911. The present attorneys have but recently been called into this case, and after a careful consideration of the application, together with a mass of data and information derived from a practical hatchery of large capacity which is being operated by the applicant, they are of the opinion that the invention has not been fully comprehended by the Examiner, due, perhaps, largely to the lack of skill of the applicant himself in the handling of applications for patents, or to his lack of knowledge as to the points which should be presented for the Examiner's consideration.

For this reason we have to request that the case be further considered in connection with the claim presented herein, and that said claim be entered as a substitute for the present claim, a course which we believe is justifiable under the circumstances, although we also request that, if the Examiner does not feel at liberty to re-examine the application, the claim be entered for the purposes of appeal.

Please amend the case by canceling the present claim and substituting the following therefor:

1025

"A hatchery for eggs embodying an incubating chamber adapted for the reception of superposed trays for eggs to be incubated, whereby said eggs will be arranged in layers one above the other, means for effecting a distribution of air uniformly to the eggs in the chamber, means for heating the air, and mechanically operated means for forcing a uniform circulation of air through all parts of the chamber and past the heater, whereby convexion currents will be eliminated, temperature and gaseous stratification of the air in the chamber overcome, and the eggs subjected to the influence of air of the same temperature and composition."

REMARKS.

The problem presented to applicant was one which finds no analogy in the small incubators such as are commonly used throughout the country, for in them the chamber is of such small size and the eggs located so close together in a vertical direction that the disturbing influences due to convexion currents and air stratification amount to nothing. It is well known that eggs during the process of incubation exert a very marked influence on the air surrounding them, as the temperature of the eggs themselves varies in accordance with the stage of their development and the gaseous emanations tend to produce vitiated conditions which exert a marked influence upon the eggs themselves, and especially upon adjacent eggs, if the eggs are at different stages of their development. The eggs themselves thus produce both temperature and gaseous stratification of the air in the chamber, but this is easily overcome in a small incubator by ordinary convexion currents such as are set up by the heater or by the temperature of the eggs themselves, but in

a large hatchery where many hundreds, and even thousands, of eggs are being continually advanced in the process of incubation the ordinary means for causing the circulation of air by convexion currents through and in the incubating chamber has been demonstrated as being totally inadequate, and this is believed to be one of the principal reasons why, up to the present time, hatcheries of large capacity have proven to be practical failures, except, perhaps, in a few isolated instances, where natural temperature and moisture conditions of the whole atmosphere have been exceptionally favorable. Applicant's invention, on the other hand, provides a means whereby success is practically assured, regardless of the location of the hatchery, and such success is believed to be due to the fact that, he has by a painstaking and very costly series of experiments discovered that the temperature and gaseous stratification in the incubating chamber must be overcome by a mechanically forced circulation of the air which will insure a correct and uniform influence of the air upon all of the eggs in the incubating chamber, and this forced circulation must be such as to overcome the counteracting influence of the eggs upon the air when said eggs are in the different stages of incubation. This feature has seemingly never been effectually worked out by investigators along this line prior to applicant, and it seems to the attorneys to present all of the characteristics of a patentable invention of the highest order. The fact that air both heated and cooled has been forced into and through apartments and vehicles, such as railway cars, etc., does not suggest the idea of overcoming the difficulties encountered in the practical operation of incubators of large capacity, especially as the conditions which exist in such hatcheries have not

heretofore been adequately understood, and the remedies for the conditions as applied to incubators of small capacity were totally inadequate.

In view of the fact that, if this amendment is admitted for the purpose of appeal only, the appeal should be taken before the 15th of July, it is requested that the foregoing amendment and argument be considered promptly or in ample time for the appeal to be filed within the statutory time.

Respectfully,

MILO HASTINGS,

By Schmeck & Schmeck

His Attorneys.

May 24, 1912.

746

Div. 38 Room 378 MSD ____ GJD Paper No. 9

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON June 25, 1912.

Milo Hastings,
c/o Church and Church,
Wash. D. C.

Please find below a communication from the EXAMINER in charge of your application.

Ser. No. 624,885, filed May 3, 1911, for Hatchery for the Eggs of Domestic Fowl.

E. Allen
Commissioner of Patents.

In response to the communication filed May 24, 1912.

The claim presented by the amendment of the above date has been entered for the purposes of appeal. It is considered that the references of record are anticipations of this claim and the case stands under the final rejection of July 15, 1911.

G. R. Lee,
Exr.

1029

IN THE UNITED STATES PATENT OFFICE.

Milo Hastings;
Hatchery for Eggs of Domestic Fowl;
Filed May 3, 1911;
Serial No. 624,885.

ROOM 378.

APPEAL TO THE BOARD OF EXAMINERS-IN-CHIEF.

Hon. Commissioner of Patents,

Sir:

I hereby appeal to the Board of Examiners-in-Chief from the decision of the Primary Examiner, rejecting finally my above entitled application, and allege as ground therefor, that the Examiner erred in holding the claim presented by the amendment of May 24, 1912 to be anticipated by the references of record.

An oral hearing is requested.

Respectfully,

Milo Hastings,

By Church & Church

His Attorneys.

July 8, 1912.

1030

748

DEPARTMENT OF THE INTERIOR,

UNITED STATES PATENT OFFICE.

Washington, D. C. July 16, 1912.

MED-LDH

In re application
Milo Hastings;
Ser. No. 624,885;
Filed May 3, 1911;
Hatchery for the Eggs of Domestic Fowl.

Before the
BOARD of EXAMINERS-in-CHIEF
on APPEAL.

Examiner's Statement.

The claim rejected is -

A hatchery for eggs embodying an incubating chamber adapted for the reception of superposed trays for eggs to be incubated, whereby said eggs will be arranged in layers one above the other, means for effecting a distribution of air uniformly to the eggs in the chamber, means for heating the air, and mechanically operated means for forcing a uniform circulation of air through all parts of the chamber and past the heater, whereby convexion currents will be eliminated, temperature and gaseous stratification of the air in the chamber overcome, and the eggs subjected to the influence of air of the same temperature and composition.

The references cited are -

Hawkins, 725,079, April 14, 1903.
Osborne, 886,325, April 28, 1908.

In the device under consideration applicant has supplied an electric fan in an ordinary type of incubator, having an egg chamber and a suitable heater, in order to produce a forced circulation of air through all parts of the chamber.

The references, Hawkins and Osborne, were cited to show that it is old to use a mechanical means to produce a forced draft. The claim was rejected upon the ground that it involved merely the double use of the devices there shown and that applicant had only applied them to an old type of incubator such as shown by Day,

1031

Ser. No. 624,885.....2.
Ex'r's Statement.

789,719, May 16, 1905, wherein it is shown common to so arrange the device that a natural circulation of air will be produced by the change in temperature thereof. It has not been shown that any new results are obtained other than those always procured through the substitution of forced for natural draft.

It is therefore believed that the device is a most obvious example of the double use of an old apparatus and that the claim was properly rejected upon this ground.

Respectfully submitted,

G. R. Ide

Examiner, Division 38.

AAAA D

750

Copy

5385

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON

July 19, 1912.

Sir:

The case of Milo Hastings

Serial ~~No.~~ No. 624885 will be heard by the ~~Commissioner~~ Examiners-in-Chief on the 23rd day of December 1912.

It is the ~~sixth~~ case on the assignment for that day.

The hearings will commence at ~~hour~~ one o'clock, and as soon as the argument in one case is concluded the succeeding case will be taken up.

If any party, or his attorney, shall not appear when the case is called, his right to an oral hearing will be regarded as waived.

The time allowed for arguments is as follows:

Ex parte cases, thirty minutes;
Motions, thirty minutes, each side;
Interference appeals, final hearing, one hour each side.

By special leave, obtained before the argument is commenced, the time may be extended.

The appellant shall have the right to open and conclude in interference cases, and in such case a full and fair opening must be made.

Briefs in interference appeals must be filed in accordance with the provisions of Rule 147.

Respectfully,

E. B. Moore

Commissioner of Patents.

To Church & Church Attys.
McGill Bldg.
Washington, D.C.

To .....

.....

.....

1033

UNITED STATES PATENT OFFICE.

In re application
Milo Hastings;
Serial No. 624,885;
Filed May 3, 1911;
Hatchery for the Eggs of Domestic Fowl.

Before the
BOARD OF EXAMINERS-in-CHIEF
on APPEAL.

BRIEF FOR APPLICANT.

The invention or discovery made by this applicant and which now seems so simple and obvious to the Primary Examiner is one which has only been developed as a result of years of study and effort. The problems confronting experimentors in the art of egg incubation have been studied from many different angles, some investigators holding the view that nature must be simulated in every possible way if satisfactory results are to be attained, and others believing that science can improve upon nature.

Many efforts have been made to carry on the incubation of eggs on an extensive scale, but as a rule such efforts have been unsuccessful, save in a few instances where climatic and atmospheric conditions have been exceptionally favorable (for example, the large incubating plants of Ancient Egypt). Other efforts to carry on incubation on an extensive scale have invariably failed, unless the operations have been sub-divided, so to speak, into a multiplicity of units, as, for example, by the

employment of a large number of relatively small incubators each practically independent of the other. The problem has been to enable the incubating operations to be carried on continuously, if so desired, with eggs at all stages of development, and with all of a vast number of eggs subjected to the same temperature and atmospheric conditions best adapted for the development of the embryo. An incubator such as is contemplated is in sharp contrast to the ordinary incubator in that it is designed to handle simultaneously hundreds of thousands of eggs and, therefore, requires a relatively large chamber for accommodating them. Plants actually constructed by applicant have been competent to handle from thirty thousand to one hundred and fifty thousand eggs and upwards at one time, for it is only by the handling of such large numbers of eggs that the expense of scientific handling and incubating operations can be reduced to a minimum.

In a small incubator holding from fifty to a few hundred eggs, the incubating chamber is of only a few cubic feet capacity and the eggs are almost invariably arranged in a single horizontal layer with which arrangement it becomes a comparatively simple matter to regulate the heat and moisture conditions, but should there be a failure to do so, the resultant loss would be quite insignificant. With a large hatchery, on the other hand, containing one hundred thousand eggs, for example, failure of a hatch would mean financial ruin. While these considerations do not enter into the questions of invention and patentability to any great extent, attention is

directed to them in order that the Board may appreciate the situation confronting one who undertakes to accomplish the seemingly simple results necessary for successful incubation.

During the incubating process the eggs themselves, especially if assembled in large numbers close together, exert a most marked influence upon the surrounding air, both with respect to temperature and composition, and owing to their inherent temperature changes, they exert a most marked influence upon adjacent eggs due to radiation. For example, during the initial stage of incubation, the eggs absorb heat whereby their temperature is raised, but during the final stages, the vital processes generate heat and in practice it is found that with vast numbers of eggs assembled in a single compartment and with eggs at all stages of incubation but very little extraneous heat need be supplied, because the eggs in the later stages of development supply the necessary heat for the eggs in the earlier stages of development. In practice, however, a source of heat is always maintained in order to permit of proper regulation.

Insofar as moisture conditions are concerned, it seems to be a problem of maintaining the atmosphere at the proper degree of humidity to insure only a proper evaporation of the internal moisture of the eggs.

It is obvious that the conditions set up by the eggs themselves will produce temperature stratification in the egg chamber, and in additions emanations from the eggs of a gaseous nature will accentuate the stratification in the chamber. In a large collection of eggs in which

incubation has started the temperature at the center of the collection will be raised very much higher than the temperature nearer the bottom and sides of the collection, from which it appears very clear that the reason for the success of the small incubator with its single layer of eggs is due to the fact that with such a small egg chamber uniform conditions are more easily maintained and it is only necessary to watch the condition of the particular horizontal air stratum in which the eggs are located. Such ideal conditions cannot, however, be maintained in a large incubating chamber containing many superposed layers of eggs. The simple way in which applicant overcame the difficulty was through the provision of a mechanically operated air forcing means which would force a rapid circulation of air through the whole collection of eggs in the chamber and past the heater. The mechanical air forcing means is an essential factor, if heat is to be conserved and the conditions maintained uniform; for a circulation, which is due to differences in temperature in different portions of the circulatory system, as, for example , where the air is circulated by the effect of the heater in causing the heated air to rise and pass into or through the incubating chamber, will not answer for large collections of eggs. Its efficacy is doubtful even in a small incubator, for the reason that at the time when the circulation should be most active, i.e., during the final stages of development of the embryo, the embryo is itself generating the greatest quantity of heat, which will counteract the circulating tendency of the heater on the air. Furthermore in the incubating process during the final stages of the development the external heat supplied must be greatly reduced and this of itself would reduce the rate of circulation, and consequently, the heat and gaseous

stratification would be augmented rather than prevented. The claim of the application includes as its mechanical elements an incubating chamber adapted for the reception of superposed trays for eggs to be incubated, means for effecting a distribution of air uniformly to the eggs in the chamber, means for heating the air, and mechanically operated means for forcing a uniform circulation of air through all parts of the chamber and past the heater. It is through the instrumentality of these elements that the temperature and gaseous stratification of the air in the chamber is overcome, and the eggs are uniformly subjected to the influence of air of the same temperature and composition. In other words, regardless of the number of superposed layers of eggs in the chamber, each egg will be subjected to the conditions best calculated to promote the development of the embryo and it becomes a comparatively simple matter to regulate both the temperature, the humidity or the gaseous compos ition of the air, inasmuch as all of the air is drawn positively through a circulatory system and may be modified at any point during its circulation. By providing a forced circulation the influence of the eggs themselves becomes a negligible factor, a result which is impossible where temperature conditions are relied upon to effect the circulation and cause a uniform distribution of the air to the eggs.

In treating this subject, the inventor himself says:

> "Large room hatcheries have been tried before and have failed because their builders did not know how to overcome the inequalities of temperature due to the convection currents of air or gravity drafts set up within the chamber by the difference in temperature of walls, eggs, or other objects, and also because with dead air it was impossible to keep

large quantities of incubating eggs from overheating in the center of the mass. In the Hastings hatchery temperature stratification is overcome by forcing through the hatching chamber a mechanically impelled blast of air. This rapidly moving air evenly distributed throughout the cross section of its movement by suitable gratings, results in a more even distribution of heat within a hatching chamber holding many thousands of eggs than is secured in a single egg tray of the most perfect dead air machine. In the practical plant the entire volume of air passes through the fan every thirty seconds."

"In the Hastings hatchery, a current of air is blown past each and every egg at the rate of thirty feet per minute and this rapidly moving air quickly bringing the temperature of the egg to approximately that of the air. This method of heating keeps the temperature of the eggs in the advanced state of incubation down within a few degrees of that of the air, the exact difference being regulated at will by adjusting the speed of the fan. When properly adjusted the same blast of air used to heat fresh eggs does equally well for eggs in the advanced stages just as the same temperature of the body of the hen incubates the eggs at all stages of development, without recourse on the hen's part to the "hatching fever", erroneously supposed to explain the higher temperature of eggs at a more advanced stage of development. Owing to this fact eggs at all stages may be handled simultaneously with uniformly good results."

"The ventilation of all previous makes of incubators is dependent upon gravity drafts which are in turn dependent upon differences in temperature between the hatching chamber and the outer atmosphere, or in different parts of the circulating system. Thus the amount of ventilation is three times as great when the thermometer outside registers 43 degrees as when it registers 88 degrees, a fact doubtless having much to do with the poor hatches of the summer months.

The Mechanical Draft Hatchery assures very thorough and very uniform ventilation of every egg and chick in the machine, but this very rapid circulation of air in the hatching chamber, is an enclosed circuit. The operator of a Mechanical Draft plant may switch as much "fresh" or outdoor air into this inner circulation as he is willing to heat. The inventor's practice is to use but a small portion of outdoor air except in cases of excessive humidity, when a large exchange of air is utilized as a simplest means of increasing evaporation.

If this rapid movement of air through the hatching chamber could possibly injure eggs or chicks, hen nests out of doors and bird nests in trees would never have kept the race alive.

The moisture - humidity - evaporation business

seems to be helplessly confused in the minds of both incubator makers and users. The editor of Farm Poultry once criticised the writer for his theory concerning humidity on the grounds that it disagreed with the teachings of the U. S. Weather Bureau. The amusing fact of the incident was that shortly before Mr. Marvin, in charge of the humidity investigations of the Weather Bureau, had complimented the writer for his 'valuable contribution' to the science of humidity.

The moisture problem in incubation is only a matter of causing the correct amount of water to evaporate from the average egg. The function of the evaporation of a liquid into the air is dependent upon three factors; temperature, rate of air movement, and the saturation deficit, or difference between the vapor pressure (humidity) of the air and the vapor pressure of the liquid. With a gravity draft incubator the amount of air movement is dependent on external temperature while the saturation deficit is wholly determined by the humidity of the external air from whence the hatching chamber atmosphere is drawn. This introduces two weather variables into the problem and while it is theoretically possible to correct for these, in practice it is not. The Hastings Hatchery having a confined atmosphere and a uniform rate of air movement places the humidity problem under a real control. Damp air may be dried with calcium chloride, if one has other reasons for not wishing to change the atmosphere. Because of the rapid air movement such artificial drying will rarely be necessary in American practice if the writer's experience in hatching during warm foggy weather on the Gulf Coast of Texas is a fair criterion.

The Dept. of Agriculture took out a patent on a very accurate moisture controlling device invented by the writer and, when desired, the Hatchery will be equipped with automatic humidifiers based on the same principle. The introduction of moisture from the mist spray nozzles in the fan boxes to increase humidity, or running in outside air to decrease it as indicated by egg weights or air cell shrinkage is sufficient for ordinary hatching practice.'

There can be no question in regard to applicant having advanced this art, nor in regard to the value of the invention from an economic standpoint.

The references cited do not suggest the invention They illustrate:

(a) systems whereby properly heated air may be forced into living rooms of buildings and into public vehicles, and allowed to escape through the ordinary cracks and openings or through openings especially provided for the purpose; and

(b) a small incubator in which there is an air circulating system in which a heater causes a difference in the specific gravity of the air in different portions of the system.

In the latter arrangement it will be noted the heat generated by the heater and by the eggs oppose and tend to prevent circulation with the result that during final stages of development when rapid circulation is most essential, the external heat must be reduced because the eggs are themselves generating heat and the circulation will be reduced to the minimum. In other words, with the system of the references the maintenance of uniform conditions would be impossible, where the number of eggs present is sufficient to have any influence on surrounding atmospheric conditions.

With regard to the Osborn patent, it will be noted that air stratification is the very object sought to be attained, see Osborn specification, page 1, lines 25-35 and 72-83; page 2, lines 8-17 and 36-38. There is no circulatory system but the air is discharged to the atmosphere, and this is also true of the car heater of the Hawkins patent.

Respectfully,

MILO HASTINGS,

By Church & Church

His Attorneys.

December 30, 1912.

H.L.L.

Appeal No. 5585. U. S. PATENT OFFICE. March 11, 1913.

Before the Examiners-in-Chief, on Appeal.

Application of Milo Hastings for a patent for an improvement in Hatcheries for the Eggs of Domestic Fowl, filed May 8, 1911, Serial No. 624,885.

Messrs. Church & Church, attorneys for appellant.

This is an appeal from the action of the primary examiner finally rejecting the following claim:

> "A hatchery for eggs embodying an incubating chamber adapted for the reception of superposed trays for eggs to be incubated, whereby said eggs will be arranged in layers one above the other, means for effecting a distribution of air uniformly to the eggs in the chamber, means for heating the air, and mechanically operated means for forcing a uniform circulation of air through all parts of the chamber and past the heater, whereby convexion currents will be eliminated, temperature and gaseous stratification of the air in the chamber overcome, and the eggs subjected to the influence of air of the same temperature and composition."

The references cited are:

Hawkins, 725,079, Apr. 14, 1903.
Osborne, 886,585, Apr. 28, 1908.

The device covered by this claim is an incubator which differs from the incubator shown in the patent to Day, cited by the examiner, in that a mechanically operated fan is employed for the purpose of securing ventilation of the incubator, instead of relying upon the natural circulation caused by the lamp which supplies the heat. By reason of the employment of a fan for this purpose, the appellant contends that he is able to carry out the incubation of eggs much more perfectly, especially

when conducted upon a large scale. It is contended that if the natural circulation of the air due to the lamp be relied upon, the air in the incubator will become stratified, by reason of the different temperatures of the eggs, and that as eggs absorb heat during the first portion of the process of incubation, and give out heat during the latter portion thereof, the additional heat at the end of the process will tend to check the draft at the precise time when it is most needed, while in the case of the forced draft the constant circulation of air at the proper temperature and humidity can be readily supplied at all times. The original specification is very brief and makes it clear that the sole invention is in securing better ventilation and a more uniform temperature throughout the hatching chamber, by substituting a forced draft for gravity drafts.

The examiner cites the patent to Osborne and the patent to Hawkins, for the purpose of showing that forced draft for ventilating purposes is well known in the art of ventilation, and in view of this holds that there can be no invention in substituting the forced draft for the natural draft of the lamp, for the purpose of securing more perfect ventilation in an incubator.

The appellant in his brief lays great stress upon his alleged success in building and carrying on hatcheries upon a large scale, and this may all be true, but there is nothing in the claim which involves operation upon a large scale, the claim covering nothing more than would be found in the Day incubator if a fan were supplied to give better ventilation, and, even if the idea of carrying out the operations on a large scale could in some way be included in the claim, it would not appear to change the situation, for it is not novel to operate on a large scale as is admitted in the brief, reference being made to incubator establishments which have been operated in Egypt. Also, large numbers of eggs have been incubated at the same time

F/H

in this country, but in these cases it is stated to have been accomplished by means of a number of separate incubators.

We find nothing which indicates that the appellant has taken advantage of any newly discovered principle in the incubation of eggs. For it was well known that eggs should be supplied with air at the proper temperature and the proper degree of humidity, and that the ventilation should be made as perfect as was consistent with the means employed. In operating with incubators of moderate capacity, it is apparently not necessary to ventilate as perfectly as it would be if the eggs were incubated in a single large apartment, but this only means that when operating on a large scale a system of ventilation should be employed which will operate perfectly and be applicable to the increased size of the plant, and it is well known that even in the ventilation of buildings the proper device for this purpose is to ventilate by means of a forced draft. We therefore believe that the examiner is right in holding that there is no invention in substituting forced draft for the natural draft in an incubator.

The decision of the examiner is affirmed.

Frank C. Skinner

Jas. F. Bagnall

Examiners-in-Chief.

I agree with appellant that the claim is patentable.

E. G. Steward

Examiner-in-Chief. 1044

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Appeal No. 5585 Patent No.
Motion of Defendant.

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON

EXAMINERS IN CHIEF
MAR 11 1911
U. S. PATENT OFFICE

Milo Hastings
c/o Church & Church Attys.
McGill Bldg.
Washington, D.C.

Sir:

Inclosed find copy of decision this day rendered by the Examiners in Chief in the ex parte case of Milo Hastings — Serial No. 624,855.

By direction of the Commissioner:

Very respectfully,

W. F. Woolard,
Chief Clerk.

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3-631

1911

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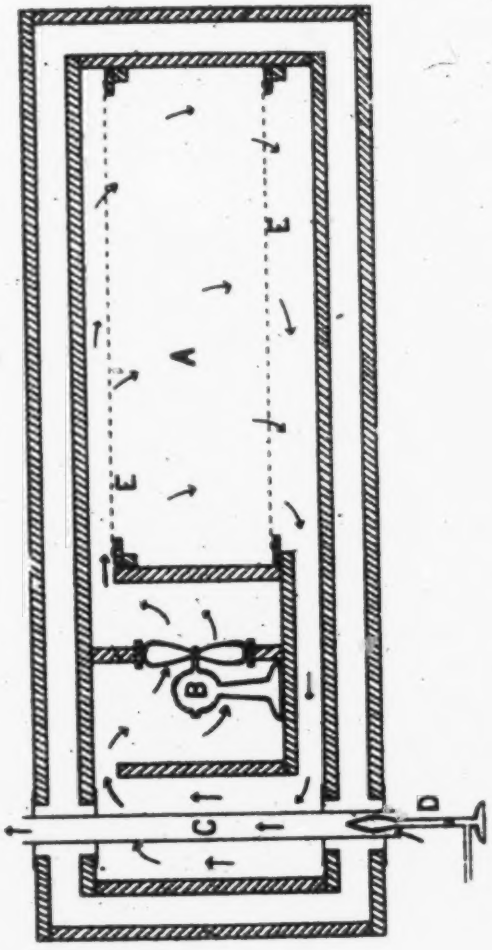

WITNESSES:
Walter B. Davis.
Isakel E. Eckhuff.

INVENTOR.
Milo Hastings.
BY
ATTORNEY

1047

[fol. 1048] PLAINTIFF'S EXHIBIT No. 100

IN THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF OREGON

The President of the United States of America to E. K. Folsom, a Notary Public in Muskogee, Oklahoma, Greetings:

Know Ye, That we, in confidence of your prudence and fidelity, have appointed you a Commissioner, and by these presents do give you full power and authority diligently to examine upon their corporal, oaths, or affirmations, before you to be taken, L. A. Cory, S. J. Anderson, R. Shanafelt, John G. Lieber, Mrs. John G. Lieber, Huston A. Hogan and L. W. Pitts, of Muskogee, Oklahoma, as witnesses on the part of the plaintiffs, in a certain cause now pending undetermined in the District Court of the United States for the District of Oregon, Numbered E-8591, wherein The Buckeye Incubator Company and Samuel B. Smith are plaintiffs, and Archie E. Stone is defendant touching the premises; said testimony to be taken before you upon an oral examination upon interrogatories.

And we do require you, before whom such testimony may be taken, to reduce the same to writing, and to close it up under your hand and seal, directed to the Master in Chancery of the above entitled Court, at the City of Portland, Oregon; and that you return the same, when executed, as above directed, annexed to this writ, with the title of the [fol. 1049] cause endorsed on the envelope of the commission, into said District Court, with all convenient speed, and not later than thirty days.

Witness the Honorable Chas. E. Wolverton, Judge of this said Court, and the Seal thereof hereunto affixed this 14th day of September, 1925.

G. H. Marsh, Clerk, by F. L. Buck, Chief Deputy Clerk. (Seal.)

UNITED STATES OF AMERICA,
District of Oregon, ss:

I, G. H. Marsh, Clerk of the United States District Court for the District of Oregon, do hereby certify that the foregoing copy of Deposition of L. A. Cory, et al., in cause

No. E-8591, The Buckeye Incubator Company, et al., vs. Archie E. Stone, has been by me compared with the original thereof, and that it is a correct transcript therefrom, and of the whole of such original, as the same appears of record and on file at my office and in my custody.

In testimony whereof I have hereunto set my hand and affixed the seal of said court at Portland, in said District, this 29th day of January, 1934.

G. H. Marsh, Clerk, by (Signed) F. H. Buck, Chief Deputy Clerk. (Seal.)

[fol. 1050] IN THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF OREGON

In Equity. E-8591

THE BUCKEYE INCUBATOR COMPANY, et al., Plaintiffs,

vs.

ARCHIE E. STONE, Defendant

Depositions Before Honorable Robert F. McGuire, Master in Chancery in the Above Entitled Court and Cause

Depositions of witnesses examined on behalf of the plaintiffs pursuant to the commission issued on the 14th day of Sept., 1925, by the Honorable Charles E. Wolverton, Judge of said United States District Court at the offices of Linebaugh, Pinson and Fite, in the City of Muskogee, Oklahoma, on Monday, the 28th day of Sept., 1925.

Present D. H. Linebaugh, Esq., on behalf of plaintiffs and no appearance on behalf of defendant.

And, Thereupon, L. A. CORY, a witness called on behalf of plaintiff, being first duly sworn, testified as follows:

Examination by Mr. Linebaugh:

Q. State your name, age and post office address?

A. L. A. Cory, 52, Muskogee.

[fol. 1051] Q. Heretofore have you been connected with and an officer of a poultry organization or society in Muskogee or Muskogee County?

A. Yes, sir, I have been a member of the local association I guess practically ever since it was formed.

Q. When was it formed, approximately what time.

A. I should think 15 years ago.

Q. Were you a member of Muskogee County Poultry Association during the years 1912 and 1913?

A. Yes, sir.

Q. Do you recall an egg hatchery or incubator located in Muskogee during those years, known as the Hastings Hatchery.

A. I do.

Q. Did you take eggs to that hatchery for the purpose of having them hatched?

A. I did.

Q. When and in what numbers?

A. I just remember the circumstances, but when, and what numbers, I would not be able to state. While Mr. Hastings was down there I took eggs three or four times to be hatched.

Q. How many eggs at each time would you take, do you remember?

A. 50 to 100 eggs each time. The exact number I can't remember.

Q. What results did you secure; that is, how many chicks would you get?

A. I never received any chickens the three or four times—always negative.

Q. Were the eggs fertile eggs, and should they have hatched?

A. To the best of my judgment they were. They were hatching under hens at home, and I sold some that hatched.

Q. What excuse did the management give for failure to deliver any chicks?

A. I don't remember what excuse he gave, if any.

Q. But you received no chicks from all of the eggs which [fol. 1052] you took?

A. No, sir, of that I am sure.

Q. And the same character of eggs which you took to the hatchery hatched under hens and for other persons to whom you sold eggs.

A. Yes, very well.

L. A. Cory.

Witness fee of $1.50 paid to witness by plaintiff. L. A. Cory.

And thereupon, S. J. ANDERSON, a witness called, being first duly sworn, on behalf of the plaintiff testifies as follows:

Examination by Mr. Linebaugh:

Q. You may state your name, age and post office address?

A. Selby J. Anderson, 60, Muskogee Oklahoma.

Q. Were you and are you now interested in the Poultry Association or organization of Muskogee, or Muskogee County?

A. No, sir, I am not now, I have heretofore been. I organized the first association here in 1910—I am the man that organized it.

Q. Did you occupy any official position with that association?

A. I have been secretary, and Superintendent for the New State Fair for 12 years—poultry superintendent.

Q. You have had quite a good deal of experience in raising chickens and judging chickens and eggs?

A. I have raised all the standard varieties.

[fol. 1053] Q. That experience has extended over a number of years?

A. Thirty.

Q. Do you recall a hatchery, or incubator, which was located and operated in Muskogee, known as the Milo Hastings hatchery, being operated by Milo Hastings, John G. Leiber and Ed. Hastain, during the years 1912 and 1913?

A. I do.

Q. Did you have occasion to, and did you take to the hatchery, or incubator, operated by these parties, eggs for the purpose of having them hatched?

A. I did.

Q. With what result?

A. None.

Q. That is, you received no chicks from the eggs which you took?

A. I received five, I believe.

Q. Five out of approximately how many eggs?

A. 150 or 200.

Q. Were the eggs that you took fertile eggs, and should they have hatched under proper conditions?

A. They were fertile and should have hatched. They were hatching under hens.

Q. Did you have occasion to investigate that hatchery because of your interest in poultry, as well as your official connection with the association?

A. I did. I was there a great many times.

Q. Do you know of any one ever having received as much as a 50% hatch of the eggs which they took?

A. I do not. However, I was told later on in the season he got better results, but I got disgusted and quit.

Q. When, to your memory, was the first time this Hastings Incubator was operated?

A. It was in January or February, 1912. However, I did not put any eggs in until about the first of March, as I aimed to get my chicks off in March or the first of April. [fol. 1054] Q. When was it last operated?

A. I don't know, it was here a year or more, I should stay, to the best of my recollection, it possibly extended over in 1913, some time, but I cannot tell you exactly. I don't know what the rest have sworn to.

Q. From the beginning until the last operations were there changes made in its construction?

A. Yes, sir. A number of them. He had a regular work shop back of it, where he was working and changing all the time.

Q. Describe the arrangement of the incubator, as to location of the fan, the egg chambers, the heater, and means of conducting the heat from one section to the other, as you now recall.

A. The first fan that was put in was a fan similar to what we see in the restaurants, to drive the hot air out; later on there was a large rotary fan, like you might have in your office, was the only fan I saw. The rotary fan, as it revolved, would throw the air to one side and as it would come back, would throw to the other. I never saw the blower they had in, not to my recollection.

Q. How were the egg chambers constructed, Mr. Anderson?

A. Mr. Linebaugh, when this was first constructed, I believe it was a dressing room used in the opera house. This room was longer than it was wide, and he started to have his trays on the outside with an alley between. Later on, these were changed, and an apartment made, and those were placed in the center. He had large heavy doors, without hinges, with a couple of straps on it, and he would pull it out if he wanted to examine that apartment, and then

put it back. That hot air came through the top. Not through the bottom but through the top. It's pretty hard to [fol. 1055] remember those things 12 or 15 years ago.

Q. The means of conducting the air and forcing the air through the incubator, was changed several times?

A. Yes, sir.

Q. You stated there were certain changes made, and these changes took place in the early part of the season, because you stopped paying attention to it?

A. When I got disgusted I quit paying attention to it.

Q. You became disgusted because you took fertile eggs there, without any results?

A. Yes, sir.

Q. Was there a poultry show held in Muskogee in the winter of 1911 and 1912?

A. Yes, sir.

Q. Do you remember about the date?

A. In January, the latter part of January, 1912.

Q. Did you, in company with others, visit the Hastings Hatchery during this show?

A. I did.

Q. Were they operating at that time?

A. Just started.

Q. How was the inside of the hatchery arranged at that time?

A. On trays.

Q. How was the interior of the hatchery at the time of this visit?

A. It was in one body. It was not in apartments, as it was later on.

Q. The heating chamber, fan chamber, and egg chamber were all in the same room?

A. Yes, sir.

Q. But you know it was later changed and divided up.

A. Yes, sir.

S. J. Anderson.

$1.50 witness fee, paid by plaintiffs. S. J. Anderson.

[fol. 1056] And Thereupon, RICHARD S. SHANAFELT, a witness on behalf of the plaintiff, testified as follows:

Examination by Mr. Linebaugh:

Q. You may state your name, age and post office?

A. Richard S. Shanafelt, 46, Muskogee.

Q. Did you live in Muskogee during the years 1912 and 1913?

A. I did.

Q. Do you remember the time of the construction in Muskogee of an incubator or egg hatchery, known as the Hastings Hatchery, being an enterprise promoted by Milo Hastings, John G. Lieber and Ed Hastain?

A. Yes, sir.

Q. Were you interested in poultry raising at that time?

A. I was.

Q. Had been for several years prior to that time?

A. Not on a large scale, but as a poultry fancier.

Q. Did you ever become a customer of this hatchery, that is, did you take any eggs to hatch?

A. Yes, sir.

Q. When and with what results?

A. Shortly after he opened up for business I took a number of eggs. My mind is not clear on that at this time. I believe I took approximately 200 eggs, from which I received back three or four chickens, a very small number, I think three or four, one of my own breed and three or four of various other breeds.

Q. Were these particular eggs that you took fertile, and should they have hatched under proper conditions?

A. Immediately after the results of this hatch, I had occasion to place other settings, or set other eggs, from which I got a very fair percentage of chicks out of the same class [fol. 1057] of eggs. I at that time had the black Orpington chickens.

Q. When was this that you took the 200 chickens to be hatched?

A. I could not say, it was shortly after he opened up for business but I have been out of the chicken business for several years now.

Q. Did you take any eggs to the hatchery at any subsequent time?

A. No, one experience was sufficient.

Richard Shanafelt.

Witness fee, in sum of $1.50 paid by plaintiffs. Richard Shanafelt.

JOHN G. LIEBER, being first duly sworn, and appearing as a witness, on behalf of plaintiffs, testifies as follows:

Examination by Mr. Linebaugh:

Q. State your name, age and post office address?

A. John G. Lieber, age 53, post office Muskogee, Oklahoma.

Q. How long have you been a resident of Muskogee, Oklahoma?

A. 31 years.

Q. Have you been interested in the past in an incubator which was located in Muskogee, Oklahoma?

A. I have.

Q. With whom, if any person, were you interested in such incubator?

A. E. Hastain and Milo Hastings.

Q. During what period of time were you interested with these parties in this business?

A. During 1911, 1912 and part of 1913.

Q. The incubator was operated for the first time in 1911, [fol. 1058] was it, at Muskogee?

A. It was built in 1911, operated in 1912 and 1913.

Q. After it ceased operations in 1913, what became of its parts, if you know?

A. It was taken apart, and the parts moved to my farm and the farm of Mr. Hastain, north of Muskogee.

Q. After the removal to your farms, what became of them?

A. Part of them are still there, scattered about, most of the lumber has been used in making repairs on the farm.

Q. What was the capacity of the incubator when it was being operated in Muskogee?

A. 30,000 eggs at one time.

Q. Was it ever operated to capacity?

A. The largest amount it ever had in it, if I remember correctly, was about 25,000.

Q. How many times did it have as many as 25,000 eggs in it?

A. I think only one time.

Q. When was that?

A. It was some time during the first season of 1912.

Q. Out of the 25,000 eggs, how many chicks did you get?

A. I could not say as to that, the amount. It gave average hatches for that year.

Q. Approximately how many chicks were hatched out of that 25,000 eggs?

A. Approximately one half, or a 50% hatch.

Q. Do you know to whom these eggs belonged?

A. They belonged to people scattered all over this section of Oklahoma.

Q. Can you name some of them who are residents in or about Muskogee?

A. Mrs.—This lady lives at Caddo Mills, Texas, I know but a few I never had anything to do with the details of the thing. This lady is Mrs. J. L. Morrow, Caddo Mills, Texas. She put 30 eggs in the incubator, and got a hatch of 28 chicks. Mr. L. A. Cory, Muskogee, Mr. S. J. Ander- [fol. 1059] son, Muskogee, Mr. Hogan, I think had eggs in it, Houston Hogan. I don't think I put any eggs in myself, but I bought some chicks. I think I bought about 500. That is all I know of definitely. Milo Hastings kept all the books.

Q. You say you had nothing to do with the detail of the business?

A. Nothing with the book keeping and things like that in the office.

Q. What was your interest in the business, state this fully, please, and in detail.

A. Milo Hastings came to Muskogee in 1911, and endeavored to get the Commercial Club to back his hatchery proposition. They sent Mr. Hastings to me. He had the idea, which appeared to me to be new, and after going over the matter with him I agreed to furnish $1,000.00, to start the business. We organized a corporation under the laws of Oklahoma, corporate name was Hastings hatchery. Milo Hastings, Ed Hastain and myself were the incorporators. My recollection is that I owned 50% of the stock, Ed

Hastain 1% and Milo Hastings, 49%. The capital stock was I think $5,000.00. Of which one half was eventually paid in by me. Milo Hastings interest was his idea or device, Ed Hastain was a friend of mine and in the corporation merely to make it legal, as the Oklahoma law requires three persons to form a corporation. I furnished all the money, excepting during the year 1913, after Milo Hastings left, when E. Hastain put in something like $500.00. Milo Hastings built the hatchery in 1911, the fall and winter of 1911 and 1912. He did practically all the work himself. He started to operating it early in 1912. He had originally told me that $1,000.00 would be all he would need. Which I agreed to furnish. Before he had the hatchery in operation, he found that this would [fol. 1060] not be sufficient and I agreed to furnish another $1,000.00. With this he succeeded in starting the Hatchery, but he soon discovered that this would not be sufficient to carry the work through. So he hit upon the plan of doing custom hatching. That is, hatching eggs, in small or large quantities, as the people would bring them to the hatchery. This was done to enable him to get some ready money as he felt that he had already imposed on me financially and in fact I was about broke anyway. And he knew it.

Q. At this time Judge you had a number of different interests in Muskogee, did you not?

A. Yes, sir. More than I had any business with.

Q. Because of these several business interests, you left the operation, management and control of the Hatchery, largely to Milo Hastings?

A. Yes, sir. Now, Mr. Linebaugh, I want to explain more about that custom hatchery business. Mr. Milo Hastings, in order to get by financially, endeavored to do practically all the work himself. Operate the hatchery, or incubator, do the office work, and everything else in connection with it. He had had experience in newspaper work, and was a splendid publicity man. He succeeded in getting the newspaper and magazines that circulated in this part of the state to insert articles about this hatchery. It was a new thing then, not only here, but I think in the whole United States. The result was that he was swamped with business. He had at the one time that I remember, about 25,000 eggs in the incubator, many of them belonging to individuals who had only one setting of eggs, or about 15,

the hatchery. I judge there must have been something like 1500 or 2000 different people who had eggs in the hatchery at that particular time. He was supposed to keep each [fol. 1061] fellows eggs separate. But with the work he was endeavoring to do himself, it was a physical impossibility for him to keep track of the various batches of eggs. The result was that one fellow who brought plymouth rocks eggs would get Rhode Island red chicks. And so on, through the whole 1500 or 2000 individuals. Milo Hastings was an eccentric sort of a fellow and became disgusted with the mess in which he had gotten the business of the hatchery in. He finally left, turned it over to me, and told me to do the best I could with it. Milo Hastings' contract with the Hastings Hatchery was that in the event he obtained a patent on his device, the patent was to be transferred to the corporation. At the time the Hatchery was in operation in 1912, a Mr. Hicks who was writing for a poultry magazine in Kansas, came down and inspected the Hatchery, took photographs of different parts of it, and an article with some of the photographs was published in the Kansas Poultry Journal. Some time after that I learned that someone had obtained a patent on the device that we used in the Hastings Hatchery. I did not learn who it was, except that it wasn't Milo Hastings. I am not prepared to say whether the Hastings Hatchery, the corporation, has any interest in the patent which was eventually obtained upon this device, but if it has, we of course expect to claim our interest.

Q. Was your venture in this matter successful or otherwise?

A. I would say it was otherwise. I got 500 pullets when we discontinued the operation of the business. That was all I ever got.

Q. For your $5,000 investment, you got 500 pullets?

A. I only invested $2,500. I really put $2,000.00 in the [fol. 1062] hatchery, and about $500.00 in rent that I paid on a farm which Milo Hastings had rented near Bacone College, where he took what chicks he had no sale for and endeavored to raise them. He had a number of brooders of his own make, out on that farm.

Q. Did any one abscond with any of the profits, or was the loss occasioned by the failure of the business to make money?

A. I don't think any of us ever made a penny out of it. Milo Hastings put in I would say 18 months time of his time, and he worked diligently. I don't think he ever used a penny of the corporation's money improperly.

Q. Why did Milo Hastings abandon the business in 1913? Was it because it was unprofitable?

A. It was unprofitable because he was attempting to do custom hatching, and did not have the force to look after the business, which resulted in a lot of dissatisfied customers.

Q. After Milo Hastings left, did you or Ed Hastain undertake to operate the Hatchery?

A. Mr. Hastain and a brother-in-law of his, named Dierfield, operated the hatchery during a part of 1913. But neither of them knew anything about the principle of the hatchery and they had no success.

Q. Did you ever personally undertake to operate the Hatchery?

A. No.

Q. Why?

A. Because I had my hands full with other things.

Q. Will you please explain in detail the method of the construction of this hatchery, and the theory of its operation?

A. I can only give the theory of the hatchery from a layman's standpoint. The large hatchery at that time was a new thing. In the small incubators of from 50 to 250 eggs [fol. 1063] capacity, it was not necessary to have any device to circulate the air. But in a large incubator of 25,000 egg capacity, this was absolutely necessary. Mr. Milo Hastings accomplished this by having a blower operated by an electric motor, which forced the air over a number of pipes, which were heated by a gas fire, and the air then passed or was forced by this blower into each compartment of the incubator. This incubator had six separate compartments, each holding 5000 eggs. He had valves or cut-offs connected with each of these sections, or compartments, by which he could regulate the heat of the air in each section or compartment. He could have one temperature in one compartment and a different temperature in another. He explained to me at the time that this was necessary because when eggs were first placed in an incubator they required the maximum amount of heat whereas a few d

before they hatched the chicks in the eggs furnished considerable heat, and therefore it was not necessary to supply as much artificial heat just before the chicks hatched. He gave this as his reason for having to have the device so that it would have one temperature in one compartment and a different temperature in another compartment. He of course had to turn the eggs by hand and as the process of hatching advanced he would transfer the tray of eggs to the compartment which had the right temperature for the eggs at that stage of the hatching.

Q. How were you able to ascertain the premise temperature of the several compartments?

A. There was a thermometer in each compartment, and with the valves or cut-offs he would get the amount of heat [fol. 1064] that he needed in each compartment to make it the temperature he wanted.

Q. These valves or cut-offs were screens between the different compartments which you would open or close as you desired to change the temperature in any particular compartment, were they?

A. Yes, sir, only the cut-offs were in the top of each compartment; they were the slide or cut-off; was made of tin or sheet iron.

Q. Were your compartments built on one side of the room, or were they built on both sides of the room?

A. They were all on the East side of the room.

Q. What did you use the West side of the room for.

A. That was used to work the incubator. The trays were four or five feet in length and it was necessary to pull them plumb out of the compartment when you went to turn the eggs. The space between the incubator and the west wall of the room was used for that purpose.

Q. Between the work room on the west side and the compartments on the east side there was no partition?

A. No. Except that there was a partition north of the compartments which housed the blowing apparatus, and another one south of the compartments, which took care of the hot air after it had passed the heating pipes and was ready to go into the compartments.

Q. The fan was on the north side of the room next to the compartments, and the heating pipes on the south side of the room, next to the compartments, is that right?

A. Yes, sir. Except I think he had a few heating pip between the East end of the compartment and the east w of the room.

Q. Was there any method by which the temperature i the work part or west side of the room could be chang [fol. 1065] or was its temperature stationary?

A. The work room got its temperature from the hatcher itself, I suppose the surplus heat. I remember that it wa generally very warm in there. I watched Mr. Milo Has ings frequently when he would be working with the inc bator.

Q. The west side of the room, then, usually had an eve temperature?

A. Yes, sir.

Q. Mr. Lieber, I hand you here a drawing that is tak from the Milo Hastings file wrapper in the patent offic In this drawing you will notice the part marked "A" is designated as egg chamber, or egg compartment, "B" is marked the fan, "C" the heating pipe, "D" a gas burne and "E" is a perforated partition, or fabric, both abov and below the egg chamber. The arrows indicate the ai movements. Now, Mr. Lieber, was the Milo Hasting hatchery here in Muskogee constructed along those lines?

A. The principle of Milo Hastings Hatchery was pra tically the same as shown on the drawing. Except, tha the heating pipe would be to the back and right hand-sid of the egg chambers, with an air pipe and valves or cut-off connecting with each egg chamber, as indicated on thi drawing by the arrows. There was also this slight differ ence. He at first used an ordinary exhaust fan as ind cated on this plan, but found that it would not give hi positive circulation of the air, and he substituted the ex haust fan for a regular blower. Such as is used in cotto gins now adays, only only not so large.

Q. The drawing, about which you have just given yo answer, is introduced as a part of your deposition, and fo its identification, will be marked Exhibit "A".

[fol. 1066] Q. Mr. Lieber, I hand you herewith anot drawing, which is marked for identification by the Not as Exhibit "B", and you will note that there are three se arate illustrations here; one, the floor plan, another a cr section front view and a third the cross-section end vi

Does this illustrate the arrangement of the Milo Hastings Hatchery?

A. Yes, sir. I am not positive though about the lower air conduit, indicated as "J". I know the upper conduit was there, because I tore it out myself. I don't remember, however, about the lower one.

Q. Mr. Lieber, were you familiar with the arrangement and construction of a Hastings incubator, at the time it was built or did not gain your information at the time you tore it down?

A. I was getting my information while it was being built, and also when I tore it down.

Q. In this drawing there are six egg chambers shown. Are you sure that six was the correct number?

A. Yes, sir.

Q. The location of the fan which is marked "F" was approximately in the position as shown here, was it not?

A. Yes, sir. There was something else right at the fan or blower which is not shown on the drawing. It was a shallow pan which contained water and was used for the purpose of moistening the air. Otherwise, this fan or blower is practically as it was in the Hastings Hatchery.

Q. Was there a passageway between the East wall and the east end of the egg chambers? That is marked "L" in this drawing? A. Yes, sir.

Q. Did the exhaust end of the fan, or blower, extend into this passageway?

A. It was connected with it by a pipe extending from the [fol. 1067] exhaust of the blower to the air passageway. It was only a short distance. Probably a foot or 18 inches.

Q. You have stated that the heating pipes were located in this passageway, marked "L" have you not?

A. My recollection is that he had a few pipes towards the south end of the passageway "L". Most of the pipes, however, were south of the egg chambers, between the egg chambers and the south wall of the building, as indicated on the drawing.

Q. What kind of pipes were these?

A. Just ordinary stove pipes.

Q. Approximately what size?

A. Either 4 or 5 inches in diameter. They were not 6 inch.

Q. How was the heat furnished for these pipes?

A. By gas burners.

Q. Was there a gas burner at the bottom of each pipe?

A. I think not. One burner would supply heat for a series of pipes, I guess you would call it. The pipes would extend upward, possibly two joints, then elbow back to the floor, again, and then up again, up and down again, until they ended in a pipe going out of the building. His aim was to use as many different coils of this pipe as it would take to utilize the heat which the gas burner would furnish.

Q. How did the air get from this heating chamber that we have marked "C" into the egg chamber?

A. Through the air conduit, marked "H" on the drawing.

Q. Did this air conduit, marked "H", connect with each of the egg chambers?

A. Yes, sir, between the air conduit "H" and each egg chamber was a cut-off or valve, by which the heat in each separate egg chamber was regulated.

[fol. 1068] Q. How did you get at this valve to regulate the heat?

A. There was a space between the egg chamber and the top of the building. My recollection is that it had a little door just above each compartment which he could open and with his hand push the cut-off or valve either way.

Q. Was there more than one main conduit across the top of the egg chambers?

A. No, sir.

Q. Mr. Lieber, state what you remember regarding the space below these egg chambers?

A. I remember very little about that particular part of the incubator. And I could not swear positively how the bottom part of it was built unless I could refresh my memory from drawings, or by talking to someone who actually knew.

Q. Do you know of anyone who does actually know?

A. I know of only two persons who would probably know about it positively from memory, Milo Hastings is one and Ed Hastain the other. I do know, however, that the incubator was constructed so that each separate compartment could have the temperature desired.

Q. Mr. Leiber, how could they secure that heat desired or rather that temperature desired with only one air intake or conduit?

A. You probably could not, but I am not an expert on the circulation of air and for that reason I am unable

testify positively. The hatchery I believe was constructed substantially as shown on the drawing which I have in my hand, marked Exhibit "B", except that the moisture pan is now shown and the pipes indicated as "D" went up and down, as I have heretofore testified.

Q. Mr. Lieber, can you indicate by means of arrows on that drawing the movements of the air through the egg chamber?

[fol. 1069] A. I will make dashes—it went right out this way (witness beginning at "F", along passageway marked "L" to heating chamber "C" into upper air conduit "H", and down into each compartment of the egg chambers).

Q. How did this air get out of the egg chambers?

A. I don't remember positively, but it probably got out, just as indicated on this drawing, except, that my recollection is, that there was a valve or cut-off in the north end of the upper air conduit "H", which connected with the fan chamber "B". There may have been another opening from the bottom of the egg chamber, from the space under the egg chamber, into the fan chamber "B". But I don't remember about that.

Q. Do you believe it was possible to regulate the temperature in each of these egg chambers, as you have indicated?

A. That is another technical air circulating question. I am afraid I can't answer it. I would say that you could circulate it must better by having a hole in the bottom of each egg chamber, as well as in the top, as indicated on the drawing.

Q. Was there any arrangement for getting rid of foul air?

A. There was an opening or a door from the work room end into the fan chamber "B". That I think was the only place where fresh air could be taken in. And, of course, when you took the fresh air in the foul air would get out.

Q. The intake of fresh air, and the exhaust of foul air was accomplished by means of this door, or opening, was it not?

A. Yes, sir, except that there was also a door into the connecting the work room end with the heating chamber [fol. 1070] "C", which could also be used, for letting in fresh air or expelling foul air.

Q. Were these doors kept open at all times?

A. No, sir, they were kept closed most of the time.

Q. What determined when they should be opened?

A. The mind of the operator, I guess, or the temperature of the different compartments.

Q. Was it in any way regulated automatically?

A. Not that I remember of.

Q. Were eggs in different stages of incubation in the same egg compartment?

A. That depended entirely on how many eggs he had in the incubator. If he had only a few hundred dozen, he could incubate them all in one compartment, whereas, if he had many eggs, it would be necessary to transfer the eggs of a certain stage of incubation all into one compartment. In other words, it was fixed so that it could be operated as the ordinary small incubator, used in the homes. Or would be operated on a large scale.

Q. Did Mr. Hastings completely fill one compartment before putting eggs in another compartment? Or did he have them scattered throughout the machine if he only had a few thousand eggs at that time?

A. I could not say as to that. That was a matter of detail, in the operation of the hatchery, to which I paid little attention.

Q. Was the construction of the incubator changed materially after the season started?

A. No, the only change that was made as I remember was to substitute the blower for the ordinary exhaust fan which he at first used to circulate the air.

Q. Do you remember how early in the year 1912, the first chicks were hatched?

[fol. 1071] A. It was cold weather, and must have been the latter part of February or the first part of March.

Q. What season in the year was the machine nearest filled?

A. It must have been along about the latter part of April or the first of May when it was nearest to its capacity. However, I can't swear positively as to that.

Q. Do you remember what eggs were worth at that time?

A. No, sir.

Q. Do you remember what price you got for baby chicks?

A. No, sir. Milo Hastings attended to all that.

Q. Are you positive that you secured at least a 50% hatch?

A. In some cases more than 50%. Some folks had just as well had door knobs in the hatchery, so far as the chicks they obtained from their eggs. Some of them got none. But I do remember that the incubator hatched what was regarded as that year as an average hatch.

Q. Was there any difference in the hatches at different times during the year?

The only difference that I remember of was that the first hatch was extremely low, and Milo Hastings attributed it to the ordinary exhaust fan, which was being used to circulate the air. After the blower was substituted for the exhaust fan he got average hatches from the incubator.

Q. Do you remember what price was paid for custom hatching?

A. I remember that it was outrageously low; that he could not make anything out of it.

Q. You have stated that there were from 1500 to 2000 different customers served by the hatchery at one time. Have you not?

A. Approximately, yes. I know nothing about the actual number.

[fol. 1072] Q. You have also stated that the greatest capacity ever in the machine at one time was 25,000 eggs, have you not?

A. Yes, sir, that is my recollection.

Q. The Mr. Hicks to whom you have referred, have you seen him recently?

A. Yes, sir. Just about a year ago.

Q. At that time did he speak to you about going to New Jersey to appear as a witness for him or for Mr. Cooley?

A. Yes, sir.

Q. What statements did he make with reference to your going to New Jersey and appearing as a witness?

A. He asked if I would be willing to come to New Jersey and testify in a case pending there involving the principle of the Hastings Hatchery. I told him I would, provided my expenses were paid.

Q. What did he say with reference to the payment of your expenses?

A. He told me that my expenses would be paid and that I would also be paid for my time.

Q. In what amount, did he say?

A. He asked me to state the amount that I wanted for my time but I told him I would leave that entirely with him. Personally I considered the expenses of the trip as pay for my time, as I have never been to New Jersey.

Q. What did he say with reference to reimbursing you for the losses which you sustained in the Hastings Hatchery at Muskogee?

A. He said that before the thing was over with I would probably get my money back.

Q. Referring to the money you had put into the Muskogee hatchery?

A. Yes, sir.

Q. After 1912, did you actually see the Hasting incubator in operation?

A. Yes, sir.

[fol. 1073] Q. When?

A. In the Spring of 1913. Mr. Ed. Hastain and his brother-in-law, Mr. Dierfield, started it, but they did not know how to operate it, and quit.

Q. That was the only time you saw it operated after 1912, was it?

A. Yes.

Q. From the first construction there were some changes made in the construction or method of operation before Milo Hastings abandoned the enterprise, was there?

A. The only change that I have any knowledge of was substituting the blower for the exhaust fan in order to get more positive circulation of the air.

Q. When did Milo Hastings leave, give the exact date, as nearly as you remember?

A. He left some time during the Summer of 1912.

Q. Why did he leave?

A. Because he had fallen down on the business end of the proposition.

Q. Then, Hastain undertook to operate it?

A. Yes, sir. But not during the season of 1912, as I remember. He may have—Mr. Ed. Hastain may have finished some unfinished work in the hatchery when Milo Hastings left. He was always ready and willing to help me out with any difficulty of that kind.

Q. How much time elapsed from Hastings leaving until Hastain undertook to operate the hatchery?

A. Unless he completed some unfinished work which Milo Hastings left in 1912, and which he would have started to complete the day after Milo Hastings left, he probably did not attempt to operate the hatchery until the Spring of 1913.

Q. Why did you wait until the Spring of 1913 for him to undertake its operation.

A. There is an old notion which is still held by many [fol. 1074] people that you can't hatch chickens except in the Spring. I judge Ed Hastain and I had those notions.

Q. How long did Hastain continue to operate in the Spring of 1913?

A. My recollection is that they only put in one batch of eggs and closed down the hatchery when the hatch was unsatisfactory.

Q. Why did he not try the second hatch?

A. We could not figure out its failure to hatch in 1913, except on the theory that Milo Hastings, the inventor, was the only man who knew how to operate it.

Q. Was not Mr. Hastain about the hatchery a great deal during 1912?

A. Yes, sir.

Q. Beside Milo Hastings, he probably knew as much about its operation as any one, did he not?

A. Yes, sir.

Q. Ed Hastain superintended the operation of the hatchery in 1913, did he not?

A. Yes, sir. He and his brother-in-law, attempted to operate it. How they did their work at that time I am unable to say. As I left it entirely with Ed Hastain.

Q. In Exhibit "A", it shows a perforated partition fabric or screen above and below the egg chambers. Was there any such partition or fabric to diffuse the air in the egg chambers of the Milo Hastings Hatchery, as operated in Muskogee?

A. There was a wood partition above and below each egg compartment in the egg chamber "A". This partition, at least the top one, was connected with the hot air passageway by the valves or cut-offs.

Q. How many holes were in this partition that you speak of in each egg chamber?

A. Just one in the top of each egg chamber. There was [fol. 1075] probably one in the bottom of each egg chamber, I don't remember about that.

John G. Lieber.

Subscribed and sworn to before me, this the 28th day of September, 1925. E. K. Folsom, Notary Public. My commission expires Sept. 15, 1927. (Notarial Seal.)

Witness fees, amounting to $1.50, paid by plaintiffs.

And thereupon, HOUSTON H. HOGAN, being first duly sworn, on behalf of the plaintiffs, testified as follows:

Examination by Mr. Linebaugh:

Q. You may state your name, age and post office?

A. Houston H. Hogan, Muskogee, age 30.

Q. Were you living in Muskogee during the years 1912 and 1913?

A. I was.

Q. Do you recall the location and operation of an egg incubator, or Hatchery, in Muskogee, known as the Hastings Hatchery?

A. I do.

Q. That was the particular business enterprise engaged in by Milo Hastings, John G. Lieber and Ed Hastain?

A. Yes, sir.

Q. Did you take to the hatchery or incubator, being operated by these gentlemen, eggs for the purpose of having [fol. 1076] them hatched?

A. No, I never had any custom hatching done.

Q. Did you have any experience or business dealings with the hatchery?

A. Well, I bought baby chicks from them.

Q. How many did you buy?

A. I could not say, it has been so long.

Q. Do you remember the price you paid?

A. No, I could not say, I just remember getting the chicks. I was there several times, I could not say just how many, just a few, probably fifty.

Q. What is your best recollection as to what you paid?

A. Well, I would not say. It seems to me I was working for a cleaning company, and I took chicks for cleaning some clothes, it seems to me.

Q. Can you describe the hatchery, the inside of the hatchery, as it existed at the time you saw it?

A. I know how it was, but I don't know how to go about telling it.

Q. Were the eggs in trays?

A. Yes, they were in trays.

Q. Were the trays so you could see them when you stepped into the room?

A. No, you could not see the trays. You could see the shelving the trays slid into. It seemed they slipped in on shelves, same as a book case or drawers.

Q. How were the shelves arranged?

A. One on top of the other, same as book cases.

Q. Could you walk into the compartment where the shelves were?

A. No, not where the—where the trays came into. Like for instance, they slid right into the wall, from the front. That is the best of my recollection. It was all heated, and the heat came from behind.

Q. Was there any fan arrangement?

[fol. 1077] A. Yes, there was circulation in there, but I could not tell how it was, it was changed quite a bit, experimenting.

Q. The location of the fan, and the method of its operation, as well as the method employed in forcing the air circulation, was that changed at different times, experimenting in different ways?

A. I never saw the change, but I know from what I heard. I saw the fan but I don't know how it was operated in the machine. I knew at the time but it has been too long. It has slipped my mind. All of the egg shelving was on the one side.

Q. And the west side was used for work purposes, was it not?

A. Now was the eggs on the East?

Q. Yes.

A. You have got me there, I was thinking they were on the south. It seemed to me the hall went in on the North side.

Q. On one side were the egg compartments and the other side was the work place?

A. Yes.

Q. And between there was no partition?

A. No.

Q. How did you come to be interested in this hatchery?

A. I have always been interested in chickens, and it was so far ahead of anything at that time I had ever heard of, I like to stick around and see how things went on.

Q. And you loafed there at off times?

A. No, I did not loaf there. I was in there quite a few times—any time I had any business I would make it a point to go in there.

Huston H. Hogan.

$1.50 Witness fee paid by plaintiffs. Huston H. Hogan.

[fol. 1078] And Thereupon, Lewis W. Pitts, being first duly sworn, on behalf of the plaintiff, testified as follows:

Examination by Mr. Linebaugh:

Q. You may state your name, age and post office address?

A. Lewis W. Pitts, 320 S. 15th St., Muskogee, Oklahoma, 44 years old.

Q. Were you living in Muskogee during the years 1912 and 1913?

A. Yes, sir.

Q. Do you recall the establishment and operation in Muskogee during that period of time, or a portion of that time, of an incubator or hatchery, known as the Hastings Hatchery, being built and operated by Milo Hastings, John G. Lieber and Ed Hastain?

A. Yes, sir.

Q. Were you interested in raising chickens at that time?

A. Yes, sir.

Q. Did you ever take to this hatchery or incubator eggs for the purpose of having them hatched?

A. No, sir, I did not for the reason I had one of my own, or I would have tried it.

Q. Did you ever make an examination of this hatchery and can you now state the method of its construction?

A. We had a poultry show here and he took the crowd there one night and showed us around. That was the only time I was ever there.

Q. Do you remember how many egg compartments it had?

A. No, sir.

Q. The egg compartments were in one side of the room and the other side was used as a work room, was it?

A. All I remember, the eggs were in trays, in tiers, and I [fol. 1079] don't remember which side, but the heat and the eggs was all in one room.

Q. And the work room, was all together?

A. Yes, I remember it so well, because it was zero outside and when we were in there it was 103.

Q. Do you remember how the air current, or currents, were formed?

A. I know that he used a fan.

Q. Do you know what kind of a fan and where it was located?

A. I don't remember that.

Q. Do you remember what kind of heating plant was used to heat the air?

A. No, sir, I don't.

Q. Do you remember what method was employed to divert the air current about the trays which contained the eggs?

A. No, sir.

Q. Do you remember whether the operation of the hatchery was successful or otherwise?

A. I don't think it was, he didn't have a very good hatch, and the chickens that were hatched were rather weak.

Q. The percentage of chicks to the eggs was very low, was it?

A. Yes, sir.

Q. And what chicks were hatched were not strong, healthy chicks, but were weak, unhealthy chicks?

A. Yes, sir.

Q. How long prior to 1912, or the starting of the Hastings Hatchery, were you interested in incubation?

A. Well, I bought a small incubator in the Spring of 1906.

Q. And you have been hatching chicks ever since?

A. Yes, every year. Never missed a year.

Lewis W. Pitts.

$1.50 Witness fee pair by plaintiff. Lewis W. Pitts.

[fol. 1080] Certificate to Depositions

STATE OF OKLAHOMA,
Muskogee County, ss:

I, E. K. Folsom, a Notary Public in and for the County aforesaid, duly commissioned and qualified, do hereby certify that the foregoing depositions of L. A. Cory, S. J. Anderson, R. Shanafelt, John G. Lieber, Huston A. Hogan and L. W. Pitts, of Muskogee, Oklahoma, were taken by me on behalf of the plaintiffs, in pursuance of the commission and notices hereto attached, at the offices of Linebaugh, Pinson & Fite, in the city of Muskogee, in said County on Monday, the 28th day of September; that said witnesses were first severally sworn to testify the truth, the whole truth and nothing but the truth, and that the depositions by them respectively subscribed, as above set forth, were reduced to writing by me, and also so written in the presence of the witnesses afore-named respectively; and were respectfully subscribed by the said witnesses in my presence; and the plaintiffs were represented by Linebaugh, Pinson & Fite, and defendant was not represented . That Mrs. John G. Lieber, for whom subpoena was issued but not served, did not appear.

I do Further Certify that I am not counsel, attorney or connected by blood or marriage to either party or otherwise interested in the event of this suit.

In Witness Whereof, I have hereunto set my hand and seal of office, this 28th September, 1925.

E. K. Folsom, Notary Public, Muskogee County, Oklahoma. My Commission Expires Sept. 15, 1927. (Notarial Seal.)

[fol. 1081] IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF OREGON

THE BUCKEYE INCUBATOR COMPANY and SAMUEL B. SMITH, Complainants,

vs.

A. E. STONE, Respondent

Subpœna

STATE OF OKLAHOMA,
County of Muskogee, ss:

To Mr. John G. Lieber, Mrs. John G. Lieber, S. J. Anderson, L. A. Cory, R. S. Shanafelt and Huston A. Hogan:

You are hereby commanded to appear before me the undersigned, a Notary Public, within and for Muskogee County, Oklahoma, at my office, in Suite 315, Manhattan Building, in the city of Muskogee, County of Muskogee, State of Oklahoma, on the 28th day of September, 1925, at 9 o'clock A. M., to testify and give your deposition on behalf of The Buckeye Incubator Company and Samuel B. Smith, complainants, in an action pending in the United States District Court for the District of Oregon, wherein the Buckeye Incubator Company and Samuel B. Smith are complainants, and A. E. Stone, is respondent.

Whereof fail not at your peril.

[fol. 1082] Witness my hand as such Notary Public, at Muskogee, Oklahoma, this the 25th day of September, 1925.

E. K. Folsom, Notary Public. (Notarial Seal.)

STATE OF OKLAHOMA,
County of Muskogee, ss:

I, H. L. Watts, certify that I am constable for Porter Township, Muskogee County, Oklahoma, and that I served the above and foregoing subpoena upon John G. Lieber, S. J. Anderson, L. A. Cory, R. S. Shanafelt and Huston A. Hogan, in the city of Muskogee, Muskogee County, Oklahoma, on September 25, 1925, by delivering to each of them a true and correct copy of said subpoena, Mrs. John G. Lieber was not served, being at this time out of Muskogee County.

My fees for service are $4.35.

H. L. Watts, Constable for Porter Township, Muskogee County, Oklahoma.

[fol. 1083] Cost Bill, Paid by Plaintiffs

H. L. Watts, Constable, fee for serving subpoenas	$4.35
Witness fees, paid L. A. Cory	1.50
Witness fees, paid S. J. Anderson	1.50
Witness fees, paid R. Shamfelt	1.50
Witness fees, paid John G. Lieber	1.50
Witness fees, paid Huston A. Hogan	1.50
Witness fees, paid L. W. Pitts	1.50
Fee of Notary Public, for taking deposition, transcribing same, 35 pages @ .50¢ per page	17.50
	$30.85

STATE OF OKLAHOMA,
County of Muskogee, ss:

I, E. K. Folsom, a Notary Public, in and for Muskogee County, State of Oklahoma, do hereby certify that the above cost bill is true and correct, and that the amounts set out therein were paid by the plaintiffs to the persons indicated, in my presence, on the 28th day of September, 1925.

E. K. Folsom, Notary Public. My Commission Expires Sept. 15, 1927. (Notarial Seal.)

Filed December 1, 1925. G. H. Marsh, Clerk.

Exhibit "A" to
deposition of
John G. Leiber.

A. Egg Chamber
B. Fan
C. Heating Pipe
D. Gas Burner
E. Perforated Partition or Fabric
Arrows indicate air movements

Exhibit "B" to deposition of Wm. G. Leiber

A. Egg chamber
B. Fan chamber
C. Heating chamber
D. Heating pipes or coils
E. Motor
F. Blower fan
G. Egg trays in position
H. Upper air conduit
I. Upper lateral conduit
J. Lower air conduit
K. Lower lateral conduits
L. Air passageway from B to C
M. Work space in front of incubator

DEFENDANT S' EXHIBIT No. 8

DEFENDANT'S EXHIBIT D-P

DEPARTMENT OF COMMERCE

PATENT OFFICE

To all persons to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the records of this office of the File Wrapper and Contents, in the matter of the

Letters Patent of

Samuel B. Smith, Assignor to
The Buckeye Incubator Co.,

Number 1,262,860, Granted April 16, 1918,

for

Improvement in Incubators.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed, at the City of Washington, this twenty-ninth day of September in the year of our Lord, one thousand nine hundred and twenty-five and of the Independence of the United States of America the one hundred and fiftieth.

ATTEST:

Chief of Division.

Thomas E. Robertson
Commissioner of Patents.

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NUMBER (Series of 1913). 127915 — 1916 — (EXT'S BOOK) 6/36/6

DIV. 38 — PATENT No. 1262860

Name: Samuel B. Smith
Assn to The Buckeye Incubator Co.
of Springfield, Ohio, a corp of Ohio

of Cleveland, 191

County of Ohio

State of

Invention Incubators.

	ORIGINAL	REFILED
Petition	Oct 26 1916	191
Affidavit	" " 1916	191
Specification	6 pts " " 1916	191
Drawing	2 sht " " 1916	191
Photo Copy	191	191
First Fee Cash	$15 Oct 26 1916	191
" " Cert.	191	191
Appl. filed complete	Oct 26 1916	191
Examiner Granted Allowed Name	Mar 8 1917	191
	F. H. Ide Ex. Div. 38	Ex. Div.
Notice of Allowance	Mch 12 1918	191
Final Fee Cash	$20 May 15 1918	191
" Cert.	191	191
Patented	APR 16 1918	191

Attorney Staley & Bowman, Gatewood Bldg, Springfield, Ohio

Associate Attorney Percy Norton, Springfield, Ohio

(No. of Claims Allowed 5) Title as Allowed Incubators
FOR Claims 1 and 5

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LAW OFFICES
STALEY & BOWMAN
ATTYS. AND PATENT CAUSES
SPRINGFIELD, O.

REC'D
OCT 24
1916
U.S. PATENT OFFICE

October 24th, 1916.

Commissioner of Patents,

Sir:-

We send you herewith an application of Samuel B. Smith for patent for improvements in Incubators. Enclosed is our check for $15.00 to cover the first fee thereon.

Respectfully,

STALEY & BOWMAN

CIW/B

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Paper No 1

MAIL ROOM
OCT
30
1916
U.S. PATENT OFFICE

PETITION

TO THE COMMISSIONER OF PATENTS:

YOUR PETITIONER, Samuel B. Smith, a citizen of the United States, residing at Cleveland, in the County of Cuyahoga and State of Ohio, whose Post Office address is Cleveland, Cuyahoga County, Ohio, prays that Letters Patent may be granted to him for the IMPROVEMENT IN INCUBATORS set forth in the annexed specification; and he hereby appoints STALEY & BOWMAN [No. 5055,] a firm composed of Paul A. Staley and Border Bowman, of Springfield, Ohio, his Attorneys, with full power of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the Patent and to transact all business in the Patent Office connected therewith.

Samuel B. Smith

[illegible]

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

Be It Known, That I, Samuel B. Smith, a citizen of the United States, residing at Cleveland, in the County of Cuyahoga and State of Ohio, have invented certain new and useful improvements in INCUBATORS, of which the following is a specification:

The improved apparatus and method, is particularly designed for extensive operations wherein a chamber of large dimensions is adapted to contain thousands of eggs in separate trays arranged in tiers and the method of heating is such that the heated air is adapted to the eggs in various stages of incubation. There is a forced circulation of hot air through the chamber which is adapted preferably to maintain all eggs at temperatures between 100° and 105° Fahrenheit approximately and this improved system contemplates that fresh eggs will be placed in a horizontal plane, preferably by means of trays supported in horizontal planes, and after the eggs have been subject to the circulation of hot air for a predetermined time (the air circulating largely around the eggs) they will be placed in a tilted or inclined position in a different location but still subject to the same column of air and at this period of incubation they will be tilted in different planes at regular intervals during the time they remain in this latter position, and after they have remained for a predetermined time they will be again moved to a different position with reference to the forced circulation of hot air and so placed therein that the air will tend to keep the eggs below 105° temperature, and in this last named position the air will be forced to pass between the different eggs and will in effect act as a cooling medium for the eggs.

In the accompanying drawings:

Fig. 1 is a cross section of my improved incubator.

Fig. 2 is a perspective view of one of the egg trays with one end removed to more clearly disclose the open mesh bottom.

Fig. 3 is a vertical section of the incubator on line 3--3, Fig. 1.

Fig. 4 is a perspective view of a portion of one of the tilting racks for the trays.

The invention comprises a walled chamber 2 corresponding in size to that of an ordinary room, say approximately nine feet

high, eight to ten feet wide, and of any desired length, and this chamber is subdivided longitudinally by two parallel rows of curtains 3 and 4 to provide a central compartment or corridor 5 and side compartments 6 and 7. Entrance to the corridor is gained by a door 8, and the compartments behind the curtains contain elevated stationary racks 9 which are within convenient reach of the attendant for introducing the fresh supply and from which elevated position the trays may be shifted at the proper time to a tier of tilting racks 10 on a lower plane and suspended therefrom by links 11. A series of stationary racks 12 are also arranged beneath the tilting racks 10, and all of said racks are of open construction and of the same size to permit interchange of the shallow trays 13 for the eggs to be hatched. These trays are provided with open mesh bottoms 14 upon which the smaller ends of the eggs rest in close and solid formation, and each tray of eggs occupies the upper rack 9 for the first three days, and is then transferred to a place in the upper end of the tilting rack 10. During the next fifteen days the trays in the tilting rack are shifted from higher to lower planes therein and tilted at frequent intervals to stand in oppositely-inclined positions. The tilting of the eggs is preferably arranged to put the eggs substantially on their sides. When the eggs in the lower-most trays in the tilting racks 10 are about ready to hatch each tray is transferred to the stationary rack 12 where the chicks may be removed as occasion requires.

Each tilting rack 10 comprises perpendicular corner bars 15 pivotally united by a series of cross bars 16 carrying connecting angle irons 17 extending from front to rear at each side and upon which the trays are adapted to be slidably supported. The links 11 are pivotally connected at the center of the uppermost cross bars 16 of each tilting rack, thus permitting an entire series of trays to be placed in an inclined position by merely raising or lowering one side of the rack by hand engagement. The weight and friction and balance of the parts cause the

to remain in any shifted position, whether horizontal or inclined. The fans or series of fans 18 mounted upon the hinged trap doors 19 forming the ceiling of the central corridor 5 constitute the means for forcing the hot air through the chamber and there are circular openings 20 provided in said doors within which the fans are arranged properly. The longitudinal space 21 above the fans has open communication above the side walls 22 with the upper ends of the rack compartments behind the curtains 3 and 4 and these curtains extend a sufficient distance, as indicated in Fig. 1, to cause the heated air distributed by the fans to pass downwardly through the central corridor to a point near the bottom of the chamber where it can pass into the space occupied by the trays. As explained later the trays near the bottom are preferably arranged so that the air is forced to pass between the eggs in each tray thereby cooling or holding the temperature of those eggs down. Thence the air passes into spaces above the lower series of trays until it reaches the distributing space 21 above the fan. Coils of heating pipe 23 are arranged in the space 21 to heat the air and more or less fresh air may be taken in through the valved opening 24 above the space 21 and this fresh supply of air may be charged with steam to a greater or less degree by means of a valve controlled jet or pipe 26 see Fig. 3. By lowering the hinged trap doors, the motor and fan are also easily reached for inspection, etc.

In Fig. 3 only a single curtain 3 is shown in place, the curtain or curtains at the right being entirely removed to disclose the racks and trays in full lines, and it will be also noted that the vertical spaces 27 between the adjacent tilting racks 10 are closed at their lower ends by flexible strips of fabric which are attached to and extend upward at each side of each rack so as to compel the air to circulate through the mesh bottom and around and about each egg as heretofore referred to, and as the eggs further advanced in incubation are contained in

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these lower trays and as the danger is that the temperature will rise in these eggs to a point injurious to incubation the improved method disclosed herein permits the circulating air to act as a medium to prevent the over heating at this stage of incubation and this is accomplished by promoting an induced draft within the lower trays. It is obvious that the fans can be so arranged and can be operated at such speed as to cause the hot air to circulate fast enough to keep the temperature throughout the chamber between the limits of 100° and 105°.

It, therefore, appears that the improved apparatus and method contemplates the application of hot air circulating in a column with such speed as to keep the temperature substantially uniform and so arranging the eggs that the fresh eggs are placed at one point in the column of air and held in a horizontal plane until they reach a predetermined stage of incubation and then put at a different point in the same column of air and kept in planes inclined to the horizontal and thereafter placed at such a point in the column of air that the forced draft of air acts to hold the eggs at a uniform temperature and to prevent them from becoming overheated and thereafter placing the eggs into final position for the hatching operation.

Any suitable thermostatic means may be employed for regulating the temperature, such for instance as a thermostat commonly employed in incubators of a well-known construction and illustrated in letters-patent No. 1,111,138, dated September 22, 1914, which thermostat may be suitably connected to the valve controlling the steam or hot water, as the case may be, which passes through the pipes 23.

Having thus described my invention, I claim:-

1. The method of hatching eggs by arranging the eggs in a column and applying heated air caused about the eggs, the heated air being adapted to the eggs in various stages of incubation.

2. The method of hatching eggs consisting of arranging the eggs in a column and forcing heated air about the eggs and having the eggs in the earliest stages of incubation at one place in the column arranged in substantially horizontal planes and the eggs in later stages of incubation arranged in planes inclined to the horizontal and at a different place in the same column of air, for the purpose specified.

3. The method of hatching eggs consisting of arranging the eggs in columns and applying heated air forced about the column of eggs, the eggs in different stages of incubation being placed in different parts of the column of heated air and the eggs in more advanced stages of incubation being arranged in tilted position for the purpose specified.

4. The method of hatching eggs, consisting of arranging the eggs in columns and applying heated air to said column of eggs, the air being forced through same and having the eggs in the earliest stages of incubation in one place in the column so arranged that the air can circulate around them and the eggs in the more advanced stages of incubation arranged at a different plane in the column of air whereby the air will be forced through and between the different eggs, for the purpose specified.

5. In an incubator, a chamber having racks and trays for the eggs, and a power-driven fan to produce a flow

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of heated air through said racks and trays.

6. In an incubator, a chamber having trays for the eggs arranged in tiers, and means to promote a draft of air through the trays containing the eggs in the last stages of incubation.

7. In an incubator, a chamber and trays for the eggs arranged in tiers therein, means to heat said eggs to incubation temperature, and means to circulate the air through each tier of trays.

8. In an incubator, a chamber, means to heat air and means to circulate the heated air within said chamber, a tilting rack within said chamber, and trays for the eggs carried by said rack.

9. In an incubator, a chamber having means to heat the air and means to circulate the heated air therein, and a hinge-jointed rack suspended in said chamber adapted to support a tier of egg-trays in differently-inclined positions.

10. In an incubator, a rack comprising parallel upright members having hinged cross pieces adapted to support separate trays at different elevations, and suspensory means in equalising pivotal connection with said rack adapting all the trays carried by said racks to be tilted to corresponding inclined positions.

11. In an incubator, a chamber and a rack and trays therein, a fan and means to operate the same to circulate air upwardly through said rack and trays, means to heat the air uniformly within said chamber, and means to regulate admission of fresh air into and foul air out of said chamber.

12. In an incubator, a chamber having a rack and egg trays removably mounted upon said rack, a power driven fan to circulate air through said chamber, means to heat the air within said chamber, and means to supply vapor for intermixture and circulation with said air.

13. In an incubator, a chamber having a series of racks therein and egg trays mounted in said racks, and means to circulate heated air into and through each rack and its trays.

14. In an incubator, a chamber having a series of tilting racks therein and egg trays mounted in tiers in each rack, means to enclose the space between the racks and tiers at the bottom of said racks, and means to circulate air through said bottom trays.

15. In an incubator, a chamber having a compartment provided with an air-circulating fan and a second compartment at one side of the first compartment having tiers of removable open egg trays and upper and lower communicating passages to permit circulation of air in the same direction continuously through said trays.

16. In an incubator, a chamber having a curtain subdividing it into two compartments, one of said compartments having tiers of egg-trays therein, a power driven fan in air-circulating communication with both compartments, and means to heat the air circulated by said fan.

17. In an incubator, a closed chamber having a curtained corridor and compartments at each side thereof and an upper air-distributing space, an air-circulating fan and means to heat the air in said upper space, and racks having removable

egg-trays superimposed in said side compartments.

14 18. In an incubator, a closed chamber having a compartment provided with a power driven fan hinged to swing downwardly from the ceiling thereof, and tiers of egg-trays in said chamber having open communication with said compartment adapted to circulate the air through said trays.

19. In an incubator, a compartmented chamber having separate tiers of open-bottomed egg-trays in one or more of the chamber compartments, means to produce a forced circulation of heated air within said compartmented chamber, and means to produce conflux of air-currents through one end of each tier of trays.

20. In an incubator, a compartmented chamber having an air-distributing space provided with a fresh-air intake, separate tiers of open-bottomed egg-trays in one or more of the compartments, a power driven fan to circulate heated air within said compartmented chamber, and means to produce conflux of air-current through the bottom of each tier of egg-trays.

21. In an incubator, a compartmented chamber having separate tilting racks provided with egg-trays having air passages in their bottoms, flexible enclosing means for said racks, and means to produce a forced circulation of heated air through said enclosed racks and egg-trays therein.

22. In an incubator, a compartmented chamber and a power-driven fan to circulate heated air therethrough, stationary egg-tray racks in the upper and lower portions of one chamber compartment and separate tilting egg-tray racks intermediate said upper and lower stationary racks.

23. In an incubator, a compartmented chamber having separate tilting racks provided with egg-trays having air passages in their bottoms, flexible enclosing means for said racks, and means to produce a forced circulation of heated air through said enclosed racks and the egg-trays therein.

24. In an incubator, a closed chamber having a central corridor provided with an air-distributing space in its upper portion and a power-driven fan in said space, curtains at each side of said corridor, separate stationary and tilting racks behind said curtains, egg-trays having open-mesh bottoms removably mounted upon said racks, and means to heat the air circulated through said chamber.

25. The method of hatching eggs by arranging the eggs in a column one above the other and forcing heated air through said column.

26. In an incubator changeable supporting means whereby eggs arranged in tiers one above the other may be changed in position sufficient to incubate.

27. In an incubator changeable supporting means whereby eggs arranged in tiers one above the other may be changed in position sufficient to incubate in a current of heated air forced through said tier and thermostatic means for controlling the temperature of said air.

28. In an incubator changeable supporting means whereby eggs arranged in tiers one above the other may be changed in position sufficient to incubate and thermostatic means for controlling the temperature of said eggs.

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In testimony Whereof, I have hereunto set MY hand this

day of October 1916.

WITNESSES

Harold Plass.

Ida M. Smith

Samuel B Smith

OATH

State of Ohio
County of Clark } ss:

Samuel B. Smith

the above named petitioner, being duly sworn deposes and says that he is a citizen of the United States of America and resident of Cleveland, Cuyahoga County, Ohio; that he verily believes himself to be the original, first, and sole inventor of the improvement in

INCUBATORS

described and claimed in the annexed specification; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof, or more than two years prior to this application, or in public use or on sale in the United States for more than two years prior to this application; and that no application for patent on said improvement has been filed by him or his representatives or assigns in any country foreign to the United States.

Samuel B Smith

(Inventor sign here first name in full)

Sworn to and subscribed before me this 20th day of October 1916.

Guy E M Floyd
NOTARY PUBLIC

1099

Room 878 CDH 2-800 LDH Paper No. 2

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON Nov. 1, 1916.

U.S. PATENT OFFICE
NOV. 1, 1916
MAILED

Staley & Bowman.
Cotwald Bldg.,
Springfield, O.

Please find below a communication from the EXAMINER in charge of the application of
Samuel B. Smith, Ser. No. 127,915, filed Oct. 26, 1916: Incubators.

Thomas Ewing
Commissioner of Patents.

Claims 1, 25 and 26 are rejected on each of

42 2

Morgan, 272,744, Feb. 20, 1883,
Class 119/40,
Winkler, 286,756, Oct. 16, 1883,
Class 119/35,
Bassini et al., 350,457, Nov. 17, 1885,
Class 119/42,
Campbell, 344,474, June 29, 1886,
X-ref. in same class,
Boyd, 828,181, Aug. 7, 1906,
Class 119/35,
VanKeuren, 1,160,795, Nov. 16, 1915,
Class 119/40, and the

German patents to

Mann, 117,089, Feb. 4, 1901,
Class 119/42, 1 sheet, and
Stulik, 155,917, Nov. 11, 1904,
Class 119/35, 1 sheet.

The references show the "column". The air is "forced" by the arrangement of the heating means which causes the heated air to rise and thus produces a circulation of air. The last two lines of Claim 1 are vague.

Claims 2, 3 and 4 are rejected on Stulik suggesting arranging the eggs in different places in the column at different periods of incubation in view of

Perkins, 745,458, Dec. 1, 1903,
Class 119/37, suggesting inclining some of the egg trays.

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Claims 5, 8 and 13 are rejected on Stulik in view of each of

Conant, 297,676, April 29, 1884,
X-ref. in Class 119/44, and
Christianson, 559,676, May 5, 1896,
X-ref. in same class, suggesting the racks, and of

Goldstein, 1,137,752, May 4, 1915,
X-ref. in Class 119/35 (see 12), suggesting the fan which otherwise does not involve invention as it is common to use such a fan to produce a circulation of air wherever desired.

Claims 6 and 7 are rejected on Stulik in view of Goldstein.

Claim 9 is rejected on Stulik in view of Goldstein and Christianson.

In Claim 10, line 4, what does "equalizing" mean? Claim 10 is otherwise allowed.

In Claim 11, line 5, before "foul" insert - and exit of - Claim 11 is rejected in the same manner as Claim 5 in view of each of

Morgan, 591,870, Oct. 19, 1897,
Class 119/42, and
Klinke, 949,653, Feb. 15, 1910,
Same class, suggesting the means to regulate.

Claim 12 is rejected on Stulik in view of Goldstein, of

Olson, 1,100,146, June 16, 1914,
X-ref. in Class 119/40, (see 4), suggesting the "means to supply vapor" and of

Bell, 691,837, Jan. 28, 1902,
Class 119/39, suggesting the "rack".

Claim 14 is rejected on Stulik in view of Goldstein and of Christianson suggesting mounting some of the egg trays on tilting racks.

Claims 15 and 16 are rejected on Stulik in view of Goldstein suggesting the fan, the second compartment and the continuous circulation. In Claim 16 the substituting of the curtain for the vertical partition does not involve invention.

Claim 17 is rejected on Goldstein in view of Van Keuren suggesting using the "corridor" of Goldstein(the space in which 11 is), to heat two chambers on each side, and of Bell, suggesting putting racks and trays in the side compartments. This gives the equivalent of the structure claimed.

In Claim 18, line 1, - closed - is misspelled. Lines 4 and 5, what is it that is "adapted to circulate air"?

Claim 18 is rejected on Campbell in view of Goldstein suggesting the "compartment" and "fan" to produce a continuous circulation of air. The specific mounting of the fan does not involve invention.

In Claim 19, line 4, what is the "means to produce conflux"? Claims 19 and 20, as far as understood, are rejected on Van Keuren.

In Claim 20, line 5, what is the "means to produce conflux"?

Claims 21 and 23 are rejected on VanKeuren in view of Goldstein and Christianson. This gives the equivalent of the structure claimed.

Claim 22 is rejected on Stulik in view of Goldstein suggesting the fan, of Van Keuren, suggesting the compartmented chamber and of Christianson, suggesting making some of the trays tilt.

Claim 24 is allowed.

Claims 27 and 28 are rejected on each of Morgan, Bassini et al., Campbell, Boyd and Stulik.

CDH

mcBeck
acting Ex

8/17

812

U.S. PATENT OFFICE MAR 7 1917 DIVISION

MAIL ROOM MAR 1917 U.S. PATENT OFFICE

Paper No. 3

AMENDMENT A

Div. 38, Room 378.

Ser. No. 127,915.

Filed October 26, 1916.

Incubators.

Samuel B. Smith.

Commissioner of Patents,

Sir:—

Amend the above application as follows:

Page 1, line 8 for the words "between 98° and 106°" substitute between 100° and 108°; line 22 change "106°" to 105°; line 24 after the word "eggs" insert the following: the temperature of circulating air should be such as will prevent the eggs in the early stage of incubation from falling below 100° and the speed or velocity of the circulating air should be such as to carry the heat away from the eggs in the later stage of incubation and thereby hold the temperature of most eggs at 105° or slightly below that. It is manifest that the temperature will remain practically the same throughout the column of eggs, but the air is supplied with sufficient velocity to carry the heat away from the eggs which happen to be in the advanced stage of incubation.

Page 5, line 9 change "98° and 106°" to read 100° and 105°.

Claim 1, line 2 change "forced" to supplied.

Claim 2, line 2 and claim 3 line 2 before "about" insert the words through and.

Claim 18, line 1 correct the spelling of closed before the word "chamber"; line 5 erase all of the line and insert therefor to cause the air to circulate through the heater.

As to claims 19 and 20 means for causing the eggs

1103

flow of air currents are the flexible strips of fabric which are fully described at page 4 near the bottom thereof.

It is urged that the claims are now clear of criticisms as to form and that same represent patentable subject matter over the references.

As to claim 1 it must now be apparent that the novel method employed by applicant consists in arranging the eggs in columns and then using artificial means for impelling the air with sufficient velocity to keep the eggs in the advanced stage of incubation from becoming over-heated. The office says the last two lines of claim 1 are vague, but applicant urges that when read in the light of the specification and disclosure those lines are perfectly clear and bring out the fact that the heated air is impelled or driven so that it is adapted to the eggs in various stages of incubation. As explained in the specification, eggs near the top of the column are kept from falling below the temperature of 100° and the eggs near the bottom of the column are kept from rising materially above 105°. In other words the heated air is adapted to the condition of the eggs at the top of the column and at the bottom.

Now applicant notes that the Patent Office cites a reference to Goldstein, which does show the use of driven or impelled air in curing cigars, but says certainly there is no such method suggested as employed by applicant wherein he puts articles, such as eggs, in columns and then drives the air through the column in such manner that it will produce desirable results with the articles in various stages of incubation. Applicant was not merely trying to dry or cure the eggs. He was struggling with the problem of dealing with a very peculiar form of article which had within it animal life and in devising a way to apply a forced draft of heated air through such perplexing articles as eggs is certainly meritious. There is absolutely nothing in the use of impelled air with cigars which would in anyway suggest to one that it would be

of any advantage in incubating eggs.

There are a number of the claims wherein the Office overlooks the distinguishing feature of having the impelled air go through and about the individual eggs at one point in the column and at another and different point have the current of air driven about the container or trays.

Claim 6 illustrates the invention of applicant as contradistinguished from the use of a draft of air for drying or aging cigars. In that claim it appears that the eggs are arranged in tiers and the air is caused to circulate through the trays which contain the eggs in the last stages of incubation.

For the purpose of drying out or aging cigars it is apparent that there would be no necessity or advantage in driving the air through the container holding the cigars. It would be entirely sufficient to have the air circulate around the cigar containers. In fact in most cases there is simply moisture administered to the cigar container.

With the foregoing explanation it is believed that the Office will recognise the advantage brought about by applicant's invention and will allow the claims over the references.

It is therefore, urged that the claims should be allowed.

Respectfully submitted,

SAMUEL B. SMITH.

By his attorneys,

Staley & Brooman

Springfield, Ohio.
March 3, 1917.
RB/S.

1106

Room 578 CDE Paper No. 6

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON March 24, 1917.

U.S PATENT OFFICE
MAR 24 1917
MAILED

Staley & Bowman,
Gotwald Bldg.,
Springfield, O.

Please find below a communication from the EXAMINER in charge of the application of

Samuel R. Smith, Ser. No. 127,915, filed Oct. 26, 1916: Incubator.

Thomas Ewing
Commissioner of Patents.

In response to the communication filed Mar. 6, 1917:

Claim 1 is rejected on each of Bassini et al., Campbell, Bell, and Boyd, suggesting eggs in a column and heated air that rises and passes around them, in view of each of

Endemann, 120,255, Oct. 24, 1871,
Class 34/59,
Jones, 152,644, June 30, 1874,
Same class, and
Verna, 891,019, June 16, 1908,
Same class (see 5 and 6), suggesting

the "impelling" the air. The last two lines do not state clearly that eggs of various stages are put in the columns. Moreover, it would involve no invention to put eggs of various stages into the column unless it is stated that eggs of different stages are arranged at different levels in the column. In the incubator references the heated air is "impelled" by its inferior density. The drier references suggest assisting this impelling force.

Claims 2 and 3 are rejected in the same manner as Claim 1 in view of Winkler, suggesting eggs of various stages of incubation arranged at different places in the column of air C(in Winkler air comes in through b and goes out through the openings in A) and of Christianson resting some eggs in inclined planes. This gives the process claimed as it would not be inconsistent with

the process disclosed in this claim to supply heat in the middle of the column of air.

Claim 4 is rejected in the same manner as Claim 3, omitting Christianson.

Claims 5, 6 and 7 are rejected in the same manner as Claim 1 and also on each of Endemann, Jones and Verna, showing all the structure claimed.

Claims 8 and 9 are rejected in the same manner as Claim 1 in view of Christianson.

The objections to Claims 10 and 11 are repeated.

Claim 10 is rejected on Christianson as far as understood. The suspending of the device does not distinguish from Christianson.

Claim 11, as far as correct, is rejected in the same manner as Claim 5, in view of each of Morgan and Klinke. Moreover, it is rejected in the same manner as Claim 6 as the "means to regulate" need include nothing more than hand operated cutoffs which it involves no invention generally to put anywhere. In Claim 11, line 4, "uniformly" is incorrect. It can not mean that the effect on the eggs is uniform since the air cools the eggs in the lower trays (see page 4, lines 15 to 16), while it heats the upper eggs. The temperature of the air is not the same throughout the column, since the temperature is raised by the lower trays of eggs and diminished by the upper, so that the temperature is higher part way up the tier at either the top or the bottom.

Claim 11 is further objected to as the structure which applicant intends to include by the phrase "means to heat uniformly" is already partly included by the fan and "means to operate".

Claim 12 is rejected on the same references as Claim 1 in view of Olsen, of record.

Claim 13 is rejected in the same manner as Claim 6.

In Claims 11 and 15 the trays of the references are supported by cleats which anticipate the "racks" as claimed. Means to support trays are common generally and are shown moreover in Bell.

In Claim 14, line 5, what is the "space between the racks and tiers"? If these tiers are those numbered 12, they should be better defined in the claim. This claim can not be well understood in its present form but seems to be met by the same references as Claim 9.

Claim 15 is rejected on each of Bassini et al., Campbell, Bell and Boyd in view of each of Jones et al. and Verna, suggesting the continuous circulation and also on each of Jones et al. and Verna, alone.

Claim 16 is rejected in the same manner as Claim 15. The curtain is not patentably different from any partition.

Claim 17 is rejected as for an incomplete combination as it does not bring out the structure definitely enough to show that the fan circulates air through the compartments or that air from the compartments goes into the air distributing space. As far as this claim states, the curtain might make a tight closure between the corridor and the compartments or they might let air from the corridor to the compartments at the top thereof. When this claim is made sufficiently definite, it will probably be allowed.

Claim 18 is not understood. What is it that is "adapted to cause"?

Claim 18 is rejected in the same manner as Claim 5, the specific location of the fan not involving invention.

In Claim 19, line 4, and Claim 20, line 5, "means to produce conflux" is incorrect as the word "conflux" is defined by the Standard dictionary to mean - "flowing together". There is no

"flowing together" at the bottom of the trays.

Claims 19 and 20 as far as correct are rejected in the same manner as Claim 15. Applicant has put drawers 6 in both compartments 4 and 5 of the Verna device. In these and other claims, to provide a plurality of compartments in the incubators would not involve invention even without its being suggested by Jones et al., and Verna.

Claims 21, 22, 23 and 24 are rejected in the same manner as Claim 8. The word "flexible" does not patentably distinguish Claims 21 and 23 from the references. To make some racks stationary and some tiltable as claimed does not involve invention unless it is stated that eggs are first put in the upper rack and moved down and that the air flows upward through the whole length of the racks and is not heated by additional heating means during its flow through the racks. Such amendments to Claim 22 are necessary to bring out the operation stated in the specification. In Claim 24 the arrangement of the "central corridor" and "air distributing space" does not involve invention. Claim 24 moreover does not state that the curtains permit any circulation of air from the corridor to the racks. This circulation of air should be included and defined.

Claim 25 is rejected in the same manner as Claim 1.

Claim 26 is rejected in the same manner as Claim 1 and also on each of Bassini et al., Campbell, Bell and Boyd alone. As far as this claims and Claims 27 and 28 disclose, eggs of various stages of incubation might be mingled in the same tray.

Claims 27 and 28 are rejected in the same manner as Claim 1. The "thermostatic means" is common in all incubators as shown in almost all the references of record.

As the references indicate, applicant has new matter in his application, but has not limited his claims sufficiently to bring it out.

C DH

G. A. Isle, Exr.

1109

Paper No. 5
AMENDMENT B

Div. 38 Room 378

Ser. No. 127,915

Filed October 26th, 1916

INCUBATOR

S. B. Smith.

MAIL ROOM APR 7 1917 U.S. PATENT OFFICE

Commissioner of Patents,

Sir:-

Amend the application as follows:-

Claim 1 line 2 after the first word in the line insert the words of various stages of incubation; same line after "column" insert, the eggs in different stages of incubation being in different levels.

A.A.C.

Claim 2 line 3 after "eggs" (first word in the line) insert the words the air being impelled from the bottom upwardly; line 4 erase "at one place in" and insert the words at the upper part of.

Claim 3 line 3 after "eggs" (first time mentioned) insert the words the air being impelled upwardly throughout the column of eggs.

Claim 4 line 3 after "same" insert the words from the bottom of said column upwardly toward the top thereof.

Claim 5 line 3 after the word "trays" insert the words, the said fan being arranged to force the air from the bottom of the chamber upwardly around the trays to the top thereof.

A.A.C.

Claim 6 line 2 after "tiers" insert the words eggs at various stages of incubation; after the word "incubation" line 4 insert the words consisting of a fan arranged at the top of the chamber and arranged to impel the air from a point at the bottom of the trays to a point at the top thereof.

A.A.C.

Claim 7 line 4 insert after "trays" an air passage-way near the bottom of the trays whereby the air will be impelled from the bottom of the tier of trays to the top thereof.

A.A.C.

Claim 8 line 4 after "rack" insert the words said circulating means consisting of mechanically operated devices arranged at the top of the column for impelling the air downwardly and a passageway at the bottom of the column for impelling the air from the bottom of the chamber towards said tilting rack and thereafter upwardly.

Claim 9 line 4 after the word "positions" insert the words said circulating means comprising aprons for causing the air to circulate from the bottom of the chamber upwardly.

Claim 10 line 6 after "positions" insert the words and means for impelling the air to circulate from the bottom of the incubator upwardly through said racks.

Claim 11 line 8 after the word "air" insert the words from the bottom of the chamber; line 4 erase the word "uniformly" and insert the words in accordance with the particular stage of incubation of the eggs; after "chamber " same line insert consisting in part of passageways near the bottom of the chamber.

Erase claims 13, 14, 15 and 16.

Claim 17 line 4 after the word "space" insert the words an air passageway near the bottom of said chamber for impelling the air within the compartments whereby it will circulate upwardly.

Claim 18 line 3 after "egg-trays" insert having therein eggs in various stages of incubation; line 4 erase the words "having open communication down to and including the end of the claim and insert therefore an air passageway located near the bottom of said tiers of trays and communicating with said fan compartment whereby the air will be impelled by the fan to circulate from the bottom of the tier of trays to the top thereof.

Erase claims 19, 20, 21, 22, 23, 25, 26, 27 and 28.

Claim 24 line 4 after the word "corridor" insert the words arranged to permit the air to circulate from the bottom of the chamber into the part of the chamber behind the curtains.

It is urged that the claims are now corrected to bring out the invention disclosed by applicant and it is urged that the same should be allowed.

Respectfully submitted,

SAMUEL B. SMITH

By his attorneys,

Staley & Bowman

Springfield, Ohio.

April 5th, 1917.

1111 SB/AB

Rm. 878 CDH LDH Paper No. 6

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON April 12, 1917.

U.S PATENT OFFICE
APR 12 1917
MAILED

Staley A Bowman.
Gotwald Bldg.,
Springfield, O.

Please find below a communication from the EXAMINER in charge of this application of
Samuel B. Smith, Ser. No. 127,915, filed Oct. 26, 1916: Incubators.

Thomas Ewing
Commissioner of Patents.

In response to the communication filed April 7, 1917:

Claims 1 and 4 are rejected on the same references as in the last office action, taken with Winkler, which suggests trays arranged with the newest at top and oldest at bottom but with heaters in the middle of the column. This would give the method claimed.

Claims 2 and 3 are rejected in the same manner as Claim 1 in view of Christianson.

Claim 5 is rejected on each of Bassini et al., Campbell, Bell and Boyd in view of each of Endermann, Jones and Verna, showing the fan.

Claims 6 and 7 are rejected in the same manner as Claim 1 and also in the same manner as Claim 5. The specific location of the fan does not involve invention.

Claims 8 and 10 are rejected in the same manner as Claim 6 in view of Christianson.

Claim 9 is objected to as the aprons do not cause the air to circulate upwardly unless they and the fan are more definitely located. Claim 9 is rejected in the same manner as Claim 8, omitting Endermann and Jones. Moreover, it is noticed

that in Fig. 2 of Verne the partition at the right of 16 has the same function as applicant's "apron" and might be made of cloth instead of wood or metal.

In Claim 10, line 4, "equalising" is not understood.

Claim 11 is rejected on the same references as Claim 1 in view of Morgan and Klinke showing "means to regulate" and also in the same manner as Claim 1 as the "means to regulate" involves no invention. The references from Class 54 show the fan and passageways. The phrase "means to heat the eggs in accordance with the particular stage of incubation of the eggs" is not very definite and is certainly shown in Winkler.

Claim 12 is rejected on the same references as Claim 5 in view of Olson, suggesting "means to supply".

Claim 15, original 17, should state that the air distributing space communicates with the corridor and the compartments, that there are two "air passageways" and that they connect the corridor with the compartments. When these, which applicant probably meant to include, have been included, this claim will probably be allowed.

Claim 14, original 18, is rejected in the same manner as Claim 6.

Claim 15, original 24, will probably be allowed if it is stated that the "air distributing space" communicates with both the corridor and the parts of the chambers behind the curtains.

CDH

G. R. Ide,
Exr.

U.S. PATENT OFFICE
APR 24 1917
DIVISION 38

MAIL ROOM
APR
23
1917
U.S. PATENT OFFICE

Paper No. 7
Amendment C

Div. 38, Room 378.
Ser. No. 127,915.
Filed October 26, 1916.
Incubators.
Samuel B. Smith.

Commissioner of Patents,

Sir:--

Erase the claims 1 to 12 16

and substitute the following:

C
Sub
D

1. The method of hatching eggs by arranging the eggs in various stages of incubation in a column, the eggs in different stages of incubation being in different levels, and applying heated air driven at a predetermined speed about the eggs whereby the heated air will be adapted to eggs in various stages of incubation.

2. The method of hatching eggs by arranging in one chamber eggs in various stages of incubation, the eggs in different stages of incubation being in different parts of said chamber, and applying heated air driven at a predetermined speed or velocity about all the eggs whereby the heated air will be adapted to eggs in various stages of incubation.

3. The method of hatching eggs, consisting of arranging eggs in various stages of incubation in an enclosure, the eggs in different stages of incubation being placed in different levels, and applying heated air to said eggs, said heated air being driven by mechanical means at a predetermined speed about the eggs to maintain same at a maximum degree of temperature of 105° and a minimum degree of 100°.

4. The method of hatching eggs by arranging eggs in

various stages of incubation in an enclosure and placing the eggs in different stages of incubation in different places in the enclosure, and thereafter forcing heated air at a predetermined speed or velocity about all the eggs whereby the eggs in the most advanced stages of incubation will be maintained at a degree of temperature less than 105° by the velocity of heated air, substantially as specified.

5. The method of hatching eggs by arranging eggs in various stages of incubation in an enclosure and placing the eggs in different stages of incubation in different places in the enclosure, and thereafter driving the heated air by mechanical means at a predetermined speed about all of the eggs and driving same through and between the eggs in the more advanced stage of incubation whereby the temperature of said eggs will be maintained at something less than 105° temperature, for the purpose specified.

6. The method of hatching eggs by arranging eggs in various stages of incubation in an enclosure and placing the eggs in different stages of incubation in different places in the enclosure, and thereafter driving the heated air by mechanical means at a predetermined speed about all of the eggs and driving same through and between the eggs in the more advanced stage of incubation whereby the temperature of said eggs will be maintained at something less than 105° temperature, said eggs in the more advanced stages of incubation being arranged in tilted position, for the purpose specified.

7. In an incubator, a chamber and trays for eggs arranged in tiers therein, means for applying heated air to said eggs, said circulating means comprising a mechanically operated device arranged at the top of the chamber for driving air downwardly and giving to said air a predetermined

speed or velocity whereby the eggs throughout the chamber will be maintained at a degree of temperature varying from 100° to 105°, the eggs in the more advanced stages of incubation being arranged at the point where the air is first applied to the eggs for the purpose specified.

Renumber claims 13 as No. 8 and at line 2 after the word "thereof" insert the following: a plurality of air passageways connecting said corridor with said compartments.

Erase claims 14.

Claim 15, line 4 after the word "curtain" insert passageways connecting the air distributing space with the corridor and the parts of said chamber behind the curtains.

* * * * * *

It is urged that the claims as now presented are clear of the references and same should be allowed.

The method employed by applicant is distinctly different from the method employed in the references and the claims are now drawn particularly to a method of hatching eggs as contradistinguished from drying fruits or other articles. While it is true that in Winkler the eggs are in various stages of incubation and ~~him~~ have heated air applied to them, there is no conception of applying the heated air with a predetermined speed or velocity that will adapt the heated air to the eggs in various stages of incubation. In Winkler's method there isn't any suggestion of giving heated air any predetermined speed or velocity. There is merely employed water jackets which heat the eggs and also the eggs move from place to place by means of carriers. It is obvious that the eggs in the advanced stages of incubation are not kept from advancing beyond the desirable temperature by the employment of any driving means for the heated air. The only mechanically operated mechanism in Winkler is the mechanism

for driving the eggs and that is distinctly different from applicant's conception which is that of driving the air in a way that will make it adapted to the eggs in all stages of incubation.

Now the references show the fans used for drying fruits, meats and similiar substances and do not in anyway suggest that there would be any advantage in using applicant's method of driving heated air with a predetermined velocity about the eggs that are in various stages of incubation. In drying fruits and meats it is merely necessary to have the air circulate about the fruits or means and that is the only purpose of using the fan whereas in applicant's method it is important to have the speed of the fan properly co-related to the heated eggs and by giving to the fan a predetermined velocity the eggs in the most advanced stages of incubation are prevented from becoming over heated.

It is believed that applicant has made a valuable contribution to the art of hatching eggs and he certainly does not claim to have attemplated anything in the art of drying fruits or meats and it is therefore urged that the claims should be allowed.

Respectfully submitted,

SAMUEL B. SMITH,

By his attorneys,

Springfield, Ohio.

April 20th, 1917.

EB/S.

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970 GDH 900 LDH

Paper No. 8

DEPARTMENT OF THE INTERIOR
UNITED STATES PATENT OFFICE
WASHINGTON May 5, 1917.

Staley & Bowman,
Getwald Bldg.,
Springfield, O.

U.S. PATENT OFFICE
MAY 5 1917
MAILED

Please find below a communication from the EXAMINER in charge of the application of
Samuel B. Smith, Ser. No. 127,915, filed Oct. 26, 1916: Incubators.

Thomas Ewing
Commissioner of Patents.

In response to the communication filed April 23, 1917:

Claims 1 and 2 are rejected on each of Morgan, Perkins, Boyd and Stulik in view of Winkler. In each of the first four references the temperature of the heated air in the column is kept the same by the thermostat that controls the heater which drives the air, so that the speed of driving the air is predetermined by adjusting the thermostat. Winkler suggests the "eggs in different stages of incubation being in different levels".

Claims 3, 4 and 5 are rejected in the same manner as Claim 1 in view of each of Endemann, Jones et al., and Verma, suggesting the "mechanical means".

Claim 6 is rejected on Perkins in view of Winkler and the references from Claim 84 and of Perkins suggesting the tilting of some of the eggs.

Claim 7 is rejected in the same manner as Claim 3. Winkler anticipates the last three lines.

Claim 8, original 17, is objected to as the passageways upwards under the curtains are included twice, once in the amendment of April 23, and once in the amendment of April 7. This claim should be rewritten.

Claim 9, original 24, is allowed.

CDH

G. A. Hay, Ex.

9/33

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Paper No. 9

Div. 36 Room 378

Ser. No. 127,915

Filed October 26th, 1916.

INCUBATORS

Samuel B. Smith.

Commissioner of Patents,

Sir:-

Please recognise Percy Morton of Springfield Ohio as our associate in the further prosecution of the above entitled application.

Staley & Bowman
Attorneys for said

Springfield, Ohio.
June 13th, 1917.
CLW/B

1119

Div. 18. Room 572.

Ser. No. 127,915.

Filed October [illegible] 1916.

Incubators.

Samuel P. [illegible].

Paper No. 10

Amendment D

Commissioner of Patents,

Sir:-

Amend the application as follows:

Erase claims 1 to 8 inclusive and insert the following:

1. The method of hatching a plurality of eggs in different stages of incubation by subjecting all of said eggs to heated air and by supplementing the natural draft of the heated air with the forced draft to increase the velocity of heated air about the eggs without changing the temperature of heated air whereby the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage.

2. The method of hatching a plurality of eggs in different stages of incubation by subjecting all of said eggs to heated air and by using a forced draft to increase the velocity of heated air without changing the temperature whereby the units of heat will be carried away from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

3. The method of hatching a plurality of eggs in different stages of incubation by subjecting all of said eggs to heated air and by supplementing a draft produced by mechanical means to increase the velocity of the air

without increasing the temperature thereof whereby the units of heat will be carried from eggs in more advanced stage to those in the less advanced stage of incubation.

Renumber claim 9 making it claim 4.

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Pursuant to the interview with the examiner on Thursday of last week the following argument is repeated in support of the three new claims now submitted. The common practice of incubation has been to assemble the eggs with a heater in close proximity overhead and as the eggs advance in incubation the heat or radiation is diminished or the eggs moved away from the heater as they advance in incubation. In attempting to hatch a plurality of eggs arranged in trays one above the other it has been found that no matter where the heater is placed when the natural draft is employed, the difference in temperature between the upper and lower parts of the egg chamber is so great as to destroy the eggs. A great many experiments havebeen made to provide a natural draft that would equalize the temperature, but the best that could be accomplished disclosed a difference of about fifteen degrees between the upper and lower part of the egg chamber, whereas when a forced draft was employed a substantially equal temperature was maintained throughout the chamber, showing that the essential feature of the invention is a forced draft and applicant seems to be the first to employ a forced draft.

The references from remote arts in which a forced draft is employed for drying meats, vegetables, fruits, tobacco, etc., afford no suggestion as to meeting the condition of the advancing incubation of eggs.

Applicant seems to be the first to discover this essential feature and it has produced a great and successful change in the art. Indeed it has revolutionized poultry industry for applicant has had in successful operation

operation for the year last past a large incubator hatching thousands of eggs by which he dontimuously hatches eggs in great quantities giving him an output of chicks which, by reason of the reduced equipment less space is required for it and fewer attendants to operate it, so vastly decreases the cost of production over the old method that he has been able to sell the chicks to Five and Ten Cent stores throughout the country at such prices that they can and do retail them at ten cents each.

It is therefore urged that the claims should now be allowed and an early allowance is respectfully urged.

Respectfully submitted,

SAMUEL B. SMITH.

By his attorneys,

Staley & Brown

Springfield, Ohio,

June 20th, 1917.

BB/S.

832

Rev. 4 Book 372 Case 2-140 Line Paper No. 11

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON June 30, 1917.

Percy Iverson,

Springfield,

O.

U.S. PATENT OFFICE
JUN 30 1917
MAILED

Please find below a communication from the EXAMINER in charge of the application of

Samuel B. Smith, Ser. No. 127,915, filed Oct. 26, 1916: Incubators.

Thomas Ewing
Commissioner of Patents.

In response to the communication filed June 28, 1917:

In Claim 1, line 4, change the first "the" to -- a --.

Attention is called to Figs. 1 to 5, inclusive, and 7 of

Koons, 916,454, Mar. 30, 1909,
Class 119/40, in which, if the pipes 54 were omitted, there would be a "natural draft" around 12, through 6 and out of the egg chamber as indicated by the arrows in Fig.1. The use of the pipes 54 adds a "forced draft" that increases the speed of the air but does not heat the air in 1. To arrange the eggs on the trays so that the air will first strike the eggs in the more advanced stage and then those in the less advanced stage is suggested by Winkler.

Claims 1, 2 and 3 are rejected as explained and also on

Scott, 709,650, Sept. 23, 1902,
Class 119/40, having a "forced draft" produced by 22 in view of Winkler suggesting using a plurality of trays to produce the mode of operation in the last three lines. These claims are also rejected on Boyd in view of each of Scott and Koons suggesting connecting the part A of Boyd to the heater to get a forced draft and of Winkler, suggesting putting the more advanced eggs in the lower tray.

In Claim 3, "mechanical means" does not distinguish from the structure of the references. Even if it did, there would be no invention in a method claims, in substituting a fan for the draft forcing means of Koons and Scott.

Claim 4, original 24, stands allowed.

CDH

L. E. R. Jr.

Div. 38 Room 378

Paper No 12

Application No. 127,915

Affidavit

AMENDMENT & Exhibit

Filed October 26th, 1916.

INCUBATORS

Samuel B. Smith.

Commissioner of Patents,

Sir:-

Please amend the above entitled application as follows:-

Line 23, page 4 after "Fig. 3" insert the outlets 28 for the release of foul air are made of such restricted capacity as to prevent the undue escape of moisture. It is possible to limit the openings and so conserve the moisture by reason of the vitalizing effect of the power driven current upon the body of the air within the chamber.

Please place the numeral 28 with proper lead lines on Figs. 1 and 3 of the drawings to indcate outlets as per order sent herewith.

Substitute the following for claims 1, 2 and 3.

1. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a current of heated air, said current being created by means other than variations of temperature and of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

2. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted

openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a power driven current of heated air in an adjacent chamber through openings into the egg chamber, said current being of sufficient velocity to circulate, diffuse and maintain the air throughout the egg chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

3. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a vertically directed current of heated air in an adjacent chamber to circulate in said egg chamber through upper and lower openings between said chambers, said current being created by mechanically moving means of such velocity as to diffuse and maintain the air throughout the egg chamber at substantially the same temperature whereby the air will be vitalised, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in the less advanced stage for the purpose specified. 3527

Please add the following claim:-

5. In an incubator, a closed chamber with a vertically disposed partition to provide a corridor having upper and lower passage ways to said chamber, egg trays arranged at different levels in said chamber, a power driven fan creating a current in said corridor to circulate through said passage ways and egg trays, said chamber having restricted openings of sufficient capacity for the discharge of foul air without undue loss of moisture and means to heat the air circulated through said chamber.

- - - -

Natural drafts seek and follow the same paths and when employed in incubators leave untouched areas of the egg chamber. This causes an uneven distribution of the heat and a variation of tempera-

fore that makes it impossible to successfully hatch eggs placed at different levels; and this is equally true of induced drafts caused by heating outlet pipes of the egg chamber. Convincing proof of this is found in the affidavit of George Cugley filed herewith.

Applicant by the introduction of a current produced by mechanical means distributes and diffuses the heat throughout the egg chamber and gives an even temperature in all parts of the chamber whereby it is possible to place the eggs at different levels; but this is not all; it is essential that a sufficient amount of moisture be retained for successful incubation and to that end the outlets for escape of foul air are restricted. The vitalising effect of agitating the air within the chamber by a power driven current makes possible the use of restricted outlets and the moisture is thereby conserved within the chamber.

The induced drafts of the new references are for the purpose of freeing the incubator of foul air. Such drafts not only follow certain paths leaving areas of the chamber untouched as heretofore pointed out; but they entirely exhaust the moisture from the egg chamber and thereby destroy the hatch. There is a vast difference - just the difference that distinguishes success from failure - between the old art of natural and induced drafts and the power driven current of applicant with its restricted outlets giving a uniform temperature, vitalizing the air and conserving the moisture in the air within the egg chamber.

While it is true the egg conveyor of Winkler is arranged with one section above another he depends entirely on having a separate heater for each section adapted to the stage of incubation of the eggs in its section. Furthermore although his patent was issued as far back as 1883 his construction is not known on the market today showing it could not have been a success. It lacks the essential features that have made the device of applicant a success.

The so-called Mammoth Incubators of recent years are all made with the egg trays in the same horizontal plane. In other words, the old units are simply multiplied each having a

single tray, the combination making an incubator of great length, whereas by the method of applicant the egg trays can be placed in column allowing the incubator to be built in compact form, so that the material employed, cost of construction and space required is vastly less and the cost of fuel and attendants to operate is proportionately reduced.

Applicant's incubator is clearly distinguished in that a power driven current is employed to establish a uniform temperature throughout the area of the egg chamber whereby the eggs can be placed at different levels and the restricted outlets conserve the moisture in the chamber, this restriction and conservation being made possible by the vitalizing effect of the power driven current.

Applicant has discovered a new method of successfully hatching eggs continuously in large numbers and should be protected in it. An allowance is respectfully urged.

Respectfully,

SAMUEL B. SMITH

By his attorneys,

Springfield, Ohio.
February 9th, 1918.

Div. 38 Room 378

Appln. No. 127,915

Filed October 26th, 1916.

INCUBATORS

Samuel B. Smith

State of Ohio, County of Cuyahoga, ss:

Samuel B. Smith being duly sworn deposes and says he is the applicant in the above entitled application; that the subject-matter of the foregoing amendment was part of his invention, was invented before he filed his original application, above identified, for such invention, was not known or used before his invention, was not patented or described in a printed publication in any country more than two years before his application, was not patented in a foreign country on an application filed more than twelve months before his application, was not in public use or on sale in this country for more than two years before the date of his application and has not been abandoned.

Samuel B Smith

Sworn to and subscribed before me this 14th day of February 1918.

Stella Jones
Notary Public

MY COMMISSION EXPIRES
JANUARY 31 1919

838 State of Ohio, } ss
Clark County, }

George Cagley being first duly sworn says that he has been for many years engaged in the incubator business both as a dealer and manufacturer; that he is president of the Buckeye Incubator Company, of Springfield, Ohio, and gives his active personal attention to the conduct of the business, including experimental work and the adopting of improvements in the product of said company; that said company has been engaged in the manufacture of incubators for 28 years and has constantly been engaged in making experiments with various types of incubators and that to his knowledge other manufacturers have been engaged in like manner; that it is a matter of common knowledge to those familiar with the art that to successfully hatch eggs they must be maintained at substantially the same temperature throughout the period of incubation; that all attempts to obtain a satisfactory hatch from eggs placed at different levels in a chamber having natural drafts or drafts induced by variation in temperature have been a failure for the reason that such drafts seek and follow the same paths leaving areas of the chamber untouched so that the same temperature cannot be maintained at different levels in the chamber; and as convincing proof of this affiant points to the fact that all manufacturers of incubators today, other than affiant's company which is building incubators in accordance with the device of applicant, place the eggs on the same level and this is true even in the so called Mammoth Incubator of recent years which simply multiply the units and place all the eggs of the several units on the same level.

Affiant further says that United States Letters Patent No. 916454 granted V.C. Koons, March 30, 1909, having been called to his attention he constructed an incubator in accordance with the invention of said patent and conducted a series of experiments

1

1129

with same; that he had photographs made of said incubator and the same are hereto attached marked Nos. 1, 2, 4 and 5 and further had a phantom drawing made which is hereto attached and marked No. 3; that No. 1 is an outside view, No. 2 is same with door open showing interior with three egg trays, No. 4 shows the position of the thermometers in each tray, No. 5 shows bottom of single tray with the position of the thermometers in said tray, the position of the thermometers being alike in each tray and No. 3 is a phantom view showing the heating device 1 with its heating drum 2 projecting into the heating chamber of the incubator, 3 is a water pan having openings 4 for escape of moisture, 5 are the egg trays, 6 are the fresh air inlets, 7 the air passages from the heating chamber to the egg chamber, and 8 the outlet tubes opening into a jacket 9 formed about the chimney of heater 1.

Affiant further says that during a period extending from September 19th to October 9, 1917, he operated said incubator making a series of tests, records of which are shown in Charts marked A, B, C, D, and E hereto attached by which it will be seen there was a wide variation of temperature both vertically and horizontally in the egg chamber showing that eggs could not be successfully hatched; and affiant particularly points out that in the test of September 21, 1917, marked "A" and the test of October 9, 1917, marked "E" were made with the outlet tubes removed, whereas the test of September 27, 1917, marked "B", September 29, 1917, marked "C" and October 3, 1917, marked "D" were made with the outlet tubes in place showing the induced drafts of the patent created a greater variation of temperature in the egg chamber which would be more disastrous to the hatch than when natural drafts were employed.

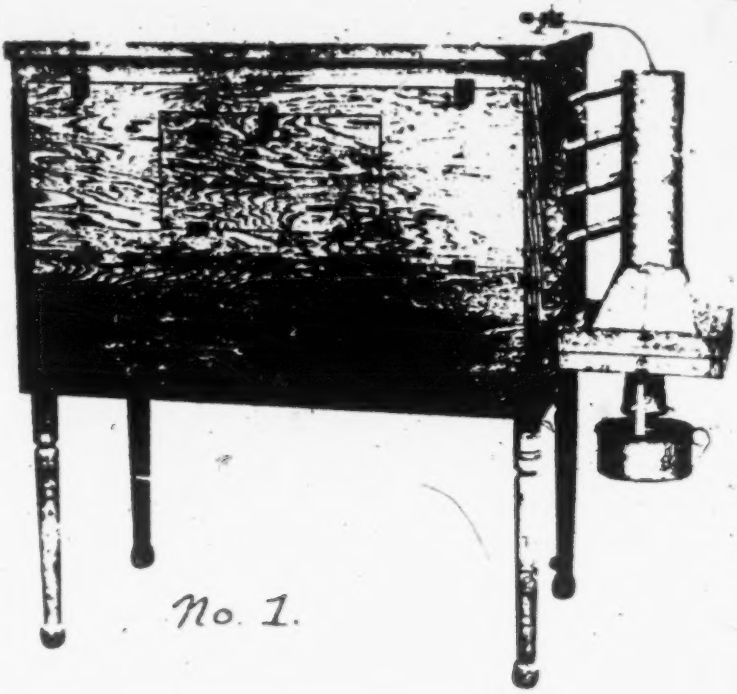
Affiant further says that moisture in the egg chamber is an essential element of a successful hatch and that an induced draft created at the outlets by variations of temperature as provided in the Rooms' construction would in his opinion so exhaust the moisture as to destroy the hatch.

George Lindsay

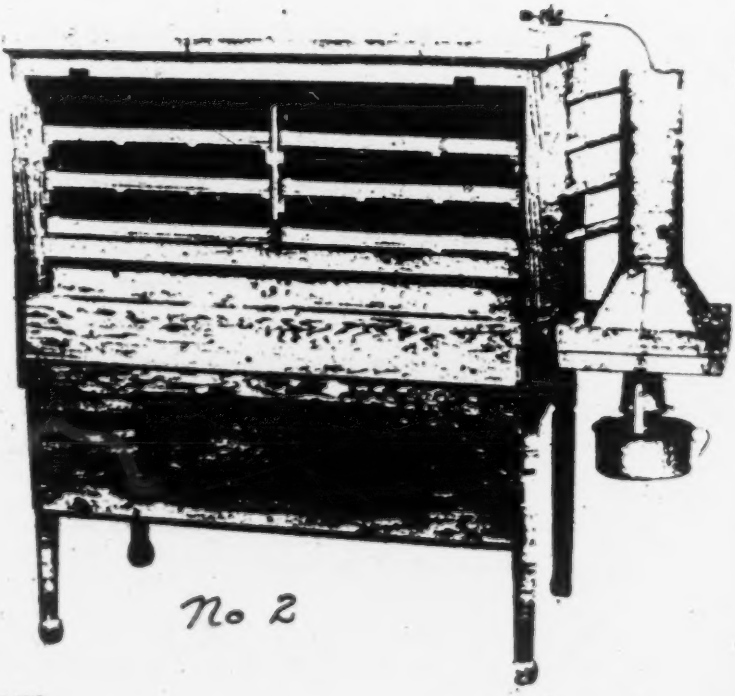
Sworn to and subscribed before me this 22nd day of February 1918.

1130

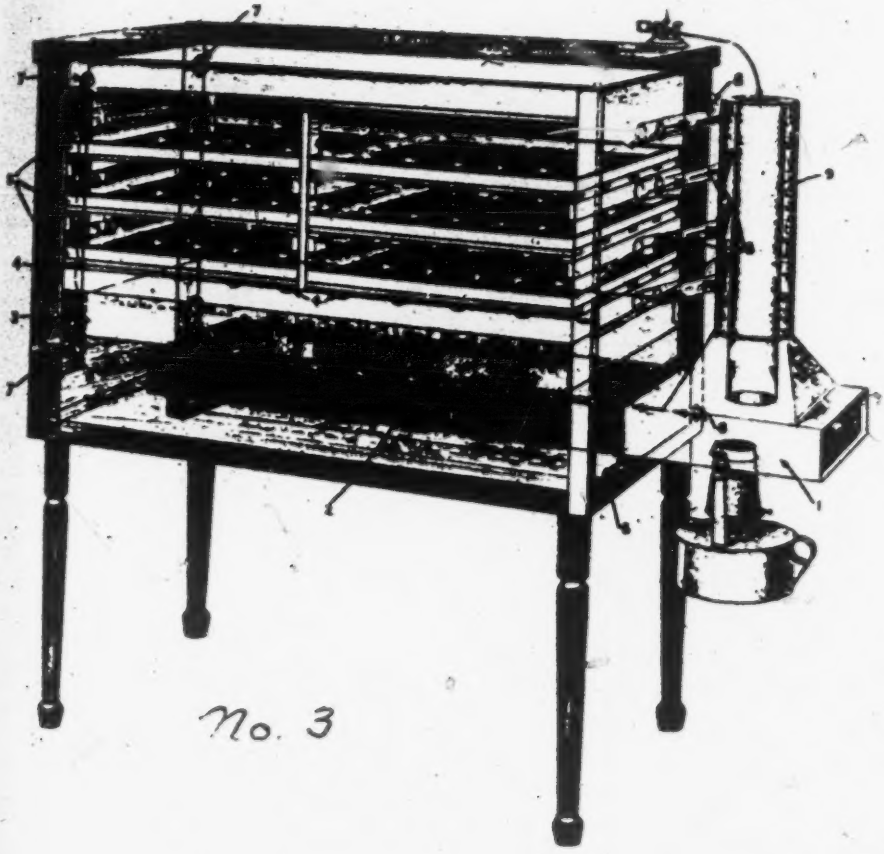
H. W. Mackinnon
Clerk Public



No. 1.



No 2



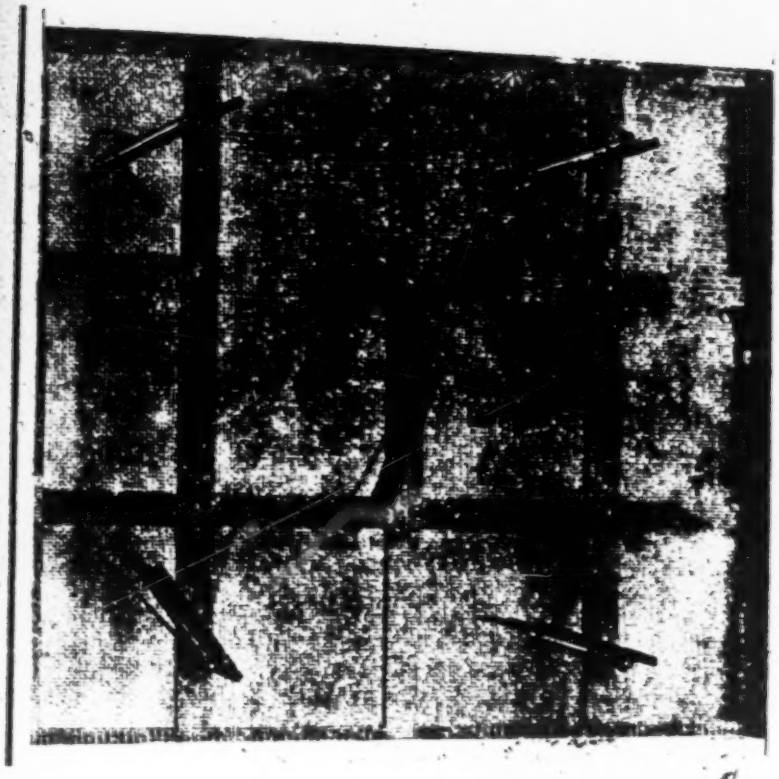
No. 3

842

No. 4.

1133

No. 5



1134

844

Sept. 21 - 1917
9 O. K.
Temp. of Room 70

A'

U. C. 11 Zones Incubator
3 Strips - Tube disconnected & plugged

1135

U. C. Mono Succession
3 Struts = 4 draught tubes connected with stock.

Expt. 3-7-1917
Temp. of Room 70°

13"

U.C. 15 Gauge Succulator.
3 trays - 4 draught tubes connected with stacks.

Sept 29-1917
Temp of Room 70°

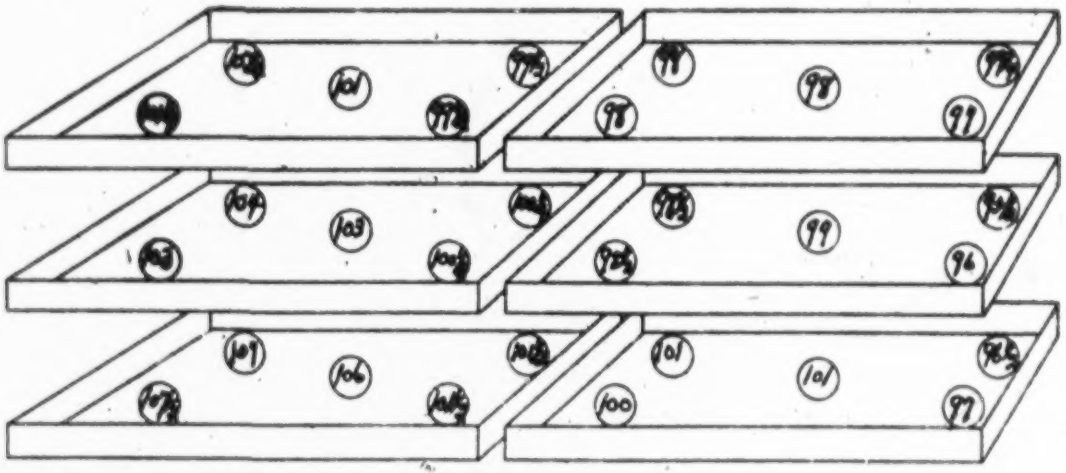
"C"

1137

October 3-1917
Temp. of Room 70°

"II"

U. S. Koona Incubator
3 Trays - 4 draught tubes connected with stack.



1138

847

848

October 9—1917
Temp of Room 70°

U. C. Kromis incubator.
3 trays — draught tubes disconnected.

1139

849

Div. 38 Room 378
Appn. No. 127915.
Filed Oct. 28, 1916.
Incubators.
Samuel D. Smith.

Commissioner of Patents,
Washington, D. C.

Sir: In the above entitled application please place the numeral 28 with proper lead lines on Figs. 1 and 3 of the drawings to indicate outlets as per enclosed blue print.

Respectfully,

Samuel B. Smith
By Haley Penman & Perry Norton

Springfield, Ohio

2 PRINT RETURNED BY DRAFTING DIV

1140

850

ADDRESS ONLY THE COMMISSIONER OF PATENTS, WASHINGTON, D.C.

K.O'D. 2-181 Serial No. 187,918

DEPARTMENT OF THE INTERIOR

UNITED STATES PATENT OFFICE

WASHINGTON March 18, 1918.

Samuel B. Smith, Assgr.

Sir: Your APPLICATION for a patent for an IMPROVEMENT in Incubators,

filed Oct. 26, 1916, has been examined and ALLOWED.

The final fee, TWENTY DOLLARS, must be paid not later than SIX MONTHS from the date of this present notice of allowance. If the final fee be not paid within that period, the patent on this application will be withheld, unless renewed with an additional fee of $15, under the provisions of Section 4897, Revised Statutes.

The office delivers patents upon the day of their date, and on which their term begins to run. The printing, photolithographing, and engrossing of the several patent parts, preparatory to final signing and sealing, will require about four weeks, and such work will not be undertaken until after payment of the necessary fee.

When you send the final fee you will also send, DISTINCTLY AND PLAINLY WRITTEN, the name of the INVENTOR, TITLE OF INVENTION, AND SERIAL NUMBER AS ABOVE GIVEN, DATE OF ALLOWANCE (which is the date of this circular), DATE OF FILING, and, if assigned, the NAMES OF THE ASSIGNEES.

If you desire to have the patent issue to ASSIGNEES, an assignment containing a REQUEST to that effect, together with the FEE for recording the same, must be filed in this office on or before the date of payment of final fee.

After issue of the patent uncertified copies of the drawings and specifications may be purchased at the price of FIVE CENTS EACH. The money should accompany the order. Postage stamps will not be received.

Final fees will NOT be received from other than the applicant, his assignee or attorney, or a party in interest as shown by the records of the Patent Office.

Respectfully,

J. T. Newton

Thos. Ewing

Commissioner of Patents.

Percy Horton,

Springfield, Ohio.

IN REMITTING THE FINAL FEE GIVE THE SERIAL NUMBER AT THE HEAD OF THIS NOTICE.

DOCUMENTS FILED UNDER THIS NO. WILL NOT BE ACCEPTED.

1141

LAW OFFICES
STALEY & BOWMAN
PATENTS AND PATENT CAUSES
SPRINGFIELD, O.

RECD MAR 18 1918

March 16th, 1918.

Commissioner of Patents,

Sir:-

We hand you herewith check for $20.00 in payment of the final government fee on the application of

Samuel B. Smith
Ser. No. 127,915
Filed October 26th, 1916
INCUBATORS
Allowed March 12th, 1918
Patent to issue to
The Buckeye Incubator Company.

Respectfully,
STALEY & BOWMAN

CDE/AB

852

United States District Court

#13

DISTRICT OF Oregon.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 23rd day of February, 1922, in this court an action, suit, or proceeding No. E-8881, entitled:

Name Buckeye Incubator Company and Samuel B.Smith, Plaintiff,
Address Incubator Co.,Springfield,Ohio; Smith, Cleveland,Ohio.
versus
Name Archie E.Sione, Defendant,
Address Corvallis, Oregon.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,263,158	April 16,1918	Buckeye Incubator Company.
2	1,262,860	April 16,1918	Buckeye Incubator Company.
3			
4			
5			

In the above-entitled case, on the ____ day of ____, 192 , the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 12th day of April, 1922, at Portland,Oregon.

G. H. March
Clerk of said Court.

1143

NEW ROOM
8 SEP 1932
U.S. PATENT OFFICE

United States District Court

#16

Western *District of* Wisconsin

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. ____), you are advised that there was filed on the 9th day of July, 1932, in this court an action, suit, or proceeding No. 2109-Equity entitled:

Name Samuel B. Smith, Plaintiff,

Address Cleveland, Ohio

VERSUS

Name Raymond Clark, Harvey Clark, & Mabel Clark, administratrix of, Defendant, the Estate of James Newman Clark, Deceased, d.b.a. Clark's Hatchery,

Address Meridean, Wisconsin

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	Apr. 16, 1918	The Buckeye Incubator Company (Assigned to Samuel B. Smith on April 29, 1927)
2.		
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

Sept. 21, 1932. Filed Final Decree signed by Hon. F. A. Geiger, approved by plaintiff and defendant, and stating in part as follows:
(see other side)

In witness whereof I have affixed my hand this 21st day of September, 1932, at Madison, Wisconsin

H. C. Hale
Clerk of said Court.

854

MAIL ROOM JUN 7 1926 U.S. PATENT OFFICE

United States District Court

#13 Q.

District of Oregon

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 23rd day of February, 1926, in this court an action, suit, or proceeding No. E 2591, entitled:

Name The Buckeye Incubator Co. and Samuel B. Smith, Plaintiff,

Address Springfield and Cleveland, Ohio, respectively

versus

Name Archie E. Stone, Defendant,

Address Corvallis, Oregon

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1.	1,262,860	April 16,1918	Buckeye Incubator Company
2.	1,263,138	April 16,1918	Buckeye Incubator Company
3.			
4.			
5.			

In the above-entitled case, on the day of , 19 , the following patents have been included by (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:

On June 1, 1926, decree entered enjoining defendant et al from infringing any of claims of said letters patent.

In testimony whereof I have affixed my hand this 1st day of June, 1926, at Portland, Oregon.

G. H. Marsh, Clerk of said Court.

By J. T. Brand, Chief Deputy

1145

United States District Court #14

DISTRICT OF Ohio, Eastern Division

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 13th day of July, 1923, in this court an action, suit, or proceeding No. 939, entitled: Equity

Name, Samuel B. Smith, Cleveland, Ohio, Plaintiff,
Address The Buckeye Incubator Company, a Corporation, Springfield, Ohio

Name J.W. Miller; The Buckeye Incubator Company, a Corporation; Joseph M. Smith; Charles L. Otis; Samuel Neff; Nell T. Smith; Volly Graham, all of Buffalo, Ohio, Defendant,
Address

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,276,860	April 16, 1918	Samuel B. Smith
2			
3			
4			
5			

In the above-entitled case, on the ..... day of ....., 192 ., the following patents have been included by ..... (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 13th day of July, 1923, at Cleveland, Ohio

B.C. Miller
Clerk of said Court.

J. Heywood Ramie
Deputy Clerk

856

United States District Court

#4

Northern DISTRICT OF Ohio, Western Division

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 4 day of June, 1923, in this court an action, suit, or proceeding No. 401 entitled:

Name The Buckeye Incubator Co, Plaintiff,
Address Springfield, Ohio

versus

Name Claude M. Lower, Defendant,
Address Bryan, Ohio

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16, 1918	Samuel B. Smith
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

June 30, 1923. Decree for complainant

In testimony whereof I have affixed my hand this 25th day of October, 1923, at Toledo, Ohio.

D. C. MILLER
CLERK U. S. DISTRICT COURT
By J. R. Wilson
DEPUTY CLERK

1147

127915-62

10-(a)

United States District Court

Northern DISTRICT OF Ohio

Western Division

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 4 day of June, 1923, in this court an action, suit, or proceeding No. 400, entitled:

Name The Buckeye Incubator Co., Plaintiff,
Address Springfield, Ohio

Name The Miracle Incubator Co., Defendant,
Address Fostoria, Ohio

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,762,860	April 16, 1918	Samuel B. Smith
2.		
3.		
4.		
5.		

In the above-entitled case, on the 18 day of October, 1923 the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:
Decree for Complainant, entered on October 18, 1923

In testimony whereof I have affixed my hand this 25th day of October, 1923, at Toledo Ohio

E. C. MILLER
CLERK U.S. DISTRICT COURT
By J. H. Hahn
Deputy Clerk
DEPUTY CLERK

858

United States District Court

DISTRICT OF ILLINOIS.

#16

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

16

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 8th day of November, 1923, in this court an action, suit, or proceeding No. 261, entitled:

Name The Buckeye Incubator Co., Springfield, Ohio, and
Address Samuel B. Smith, of Cleveland, Ohio, Plaintiffs,

Name Otto Kuehl, Defendant,
Address Minonk, Woodford County, Illinois,

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,262,860	April 16, 1918.	
2		
3		
4		
5		

In the above-entitled case, on the _____ day of _____ 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 8th day of November, 1923, at Peoria, Illinois.

E. J. Burnett
Clerk of said Court.

1149

12791-64

United States District Court

17

NORTHERN DISTRICT OHIO (Eastern Division)

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 12th day of March, 192 4, in this court an action, suit, or proceeding No. 1048, entitled:

Name The Buckeye Incubator Co. and Samuel E. Smith, Plaintiff

Address Springfield, O., Cleveland, Ohio

DEFEND

Name Charles Mowary, Defendant,

Address Loudonville, Ashland Co., Ohio

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,263,138	Apr. 16, 1918	Buckeye Incubator Co.,
2 1,269,860	Apr. 16, 1918	do do do
3		
4		
5		

In the above-entitled case, on the _____ day of _____, 192

the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

In testimony whereof I have affixed my hand this 12th day of March, 192 4, at Cleveland, Ohio

B. C. MILLER,
Clerk of said Court.

By R. A. Weller, Deputy.

1150

860

United States District Court

1048

District of Northern Ohio (Eastern Division)

#17(4)

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 15th day of March, 1924, in this court an action, suit, or proceeding No. 1048, entitled:

Name The Buckeye Incubator Co. and Samuel B.Smith, Plaintiff,

Address Springfield Ohio. Cleveland Ohio

versus

Name Charles Mowery, Defendant,

Address Loudonville, Ashland Co., Ohio

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1.	1,265,138	Apr. 16,1918	Buckeye Incubator Co
2.	1,262,860	Apr. 16, 1918	" " "
3.			
4.			
5.			

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:
Final decree
Apr.25,1924,by consent, defendants, agents, etc.,be enjoined from infringing the patents, or any of them, that are set up in the Bill of Complaint, Costs to be paid by plaintiffs. D.C.Westenhaver,Judge.

In testimony whereof I have affixed my hand this 15th day of October, 1924, at Cleveland, Ohio

B.C.Miller
Clerk of said Court.

By G.L.Patterson
Deputy

1151

United States District Court

#18

EASTERN DISTRICT OF WASHINGTON

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 11th day of June, 1924, in this court an action, suit, or proceeding No. 1284, entitled:

Name The Smokeye Incubator Co., Plaintiff,

Address Springfield, Ohio

DEFENDANT

Name John Moorehead, Defendant,

Address Granger, Washington

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1262860	April 16,1918	Samuel B. Smith
2 1263138	" " "	Samuel B. Smith
3		
4		
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, motion, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

_____

_____

_____

In testimony whereof I have affixed my hand this 11th day of June, 1924, at Yakima, Washington.

C. A. Robinson
Deputy Clerk of said Court.

862

United States District Court

DISTRICT OF .....

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (41 Stat. L. .....), you are advised that there was filed on the 11th day of June, 1925, in this court an action, suit, or proceeding No. 1284, entitled:

Name The Buckeye Incubator Co. and S. A. Bell, Plaintiff,
Address Springfield, Ohio

VERSUS

Name John Morehead, Defendant,
Address Covington, Washington

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1263131	April 16, 1918	Buckeye Incubator Co.
2 1262860	April 16, 1918	Buckeye Incubator Co.
3		
4		
5		

In the above-entitled case, on the 26 day of August, 1925, the following patents have been included by Answer (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1 1263131	April 16, 1918	Buckeye Incubator Co.
2 1262860	April 16, 1918	
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree entered:

Consent decree filed Sept 3, 1925.

In witness whereof I have affixed my hand this 15th day of September, 1925, at Spokane, Wash.

Edward S. Cam
Clerk of

1153

#19

United States District Court

DISTRICT OF Eastern Washington

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 8 day of July, 1924, in this court an action, suit, or proceeding No. 1286, entitled:

Name Buckeye Incubator Co., Plaintiff,
Address Springfield, Ohio

DEFENDANT

Name E. E. Wells, Defendant,
Address Prosser, Wash.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1263128	April 16 1918	Buckeye Incubator Co.
2 1426186	" " "	" " "
3		
4		
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 8 day of July, 1924, at Yakima, Wash.

C. C. Robinson
Deputy Clerk of said Court.

United States District Court

DISTRICT OF .....

1925 19(a)

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (41 Stat. L.), you are advised that there was filed on the 5th day of July, 1924, in this court an action, suit, or proceeding No. 1286, entitled:

Name Buckeye Incubator Co. and Lewis D. Smith, Plaintiff
Address Springfield, Ohio

VERSUS

Name E. T. Wells, Defendant
Address Owosso, Washington

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1263138	April 16, 1918	Buckeye Incubator Co.
2. 1262860		
3.		
4.		
5.		

In the above-entitled case, on the 5th day of December, 1925, the following patents have been included by amended (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1263138	April 16 1918	Buckeye Incubator Co.
2. 1262860	" " "	" "
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree entered:

Consent decree filed on Sept 4, 1925

In witness whereof I have affixed my hand this 15th day of September, 1925, at Spokane, Wash.

Allan F. Davis
(Clerk of Court)

United States District Court #20

Southern DISTRICT OF Illinois. (Northern Div.)

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 19th day of August, 1924, in this court an action, suit, or proceeding No. 292, entitled:

Name The Buckeye Incubator Company and Samuel B.Smith, Plaintiff,s,
Address Buckeye Company, at Springfield, O., and Samuel B.Smith, at Cleveland, Ohio.
DEFENDANTS

Name F. & H. Hatchery, (Inc.) Farrow & Hirsch Company, [redacted],
David T. Farrow and Abraham Hirsch,
Address Peoria, Illinois.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1.	1,262,860	April 16, 1918.	The Buckeye Incubator Company.
2.			
3.			
4.			
5.			

In the above-entitled case, on the _____ day of _____, 192 the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 19th day of August, 1924, at Peoria, Illinois.

E. T. Burnett
Clerk of said Court.

866

9-5-24

United States District Court

WESTERN District of Missouri

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 28 day of September, 1924, in this court an action, suit, or proceeding No. 565, entitled:

Name The Buckeye Incubator Co. and Samuel B. Smith, Plaintiff,

Address Springfield and Cleveland, Ohio

versus

Name E. L. Rusk, P. M. Rusk and D. W. Rusk, Defendant,

Address Windsor, Missouri

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,242,860	April 16, 1918	The Buckeye Incubator Co.
2. 1,265,138	" "	"
3.		
4.		
5.		

In the above-entitled case, on the ..... day of ....., 19..., the following patents have been included by ..... (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

.....

.....

In witness whereof I have affixed my hand this 28 day of September, 1924, at Kansas City, Missouri.

Edwin R. Durham
Clerk of said Court

1157

United States District Court

#21867

DISTRICT OF INDIANA

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. 392 ~~41 Stat. L.~~), you are advised that there was filed on the 13th day of August, 1924, in this court an action, suit, or proceeding No. 812, entitled:

Name Buckeye Incubator Co., Plaintiff,

Address Springfield, Ohio

DEFEND

Name Bert Bolling, Defendant,

Address Brownstown, Ind

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	Apr 16, 1918	Buckeye Incubator Co.
2			
3			
4			
5			

In the above-entitled case, on the ____ day of ____, 192 the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Pending

In witness whereof I have affixed my hand this 23d day of September, 1924, at Indianapolis

William R. Kopp
Clerk of said Court.

1158

868

FORM 2 — Notice as to Additional Patents

ROOM AUG 28 1926 PATENT OFFICE

#226

United States District Court
District of Indiana
Indianapolis Division

August 20, 1926

THE BUCKEYE INCUBATOR CO ET AL — 1,262,860

VS — 812

BERT BOLLING

To the Commissioner of Patents
Washington, D C

Sir:

In compliance with the Act of Feb 18 1922 notice is hereby given as to the above entitled action:

1. On Oct 12, 1924 there was filed an answer whereby there were included in the action additional patents having the following designating numbers, dates and inventors:

Patent Nos	Dates of Patents	Inventors
3,019,	Guerin,	March 20, 1843
120,253,	Endemann	October 24, 1871
152,644	Jones	June 30, 1874
272,744	Morgan	February 20, 1883
286,756	Winkler	October 16, 1883
297,676	Conant	April 29, 1884
320,463	Cutting	June 23, 1885
330,457	Bassini	November 17, 1885
344,474	Campbell	June 29, 1886
559,676	Christianson	May 5, 1896
591,870	Morgan	October 19, 1897
691,837	Bell	January 28, 1902
709,650	Scott	September 23, 1902
725,049	Hawkins	April 14, 1903
745,458	Perkins	December 1, 1903
828,181	Boyd	August 7, 1906
886,255	Osborn, April	April 28, 1908
891,019	Verna	June 16, 1908
916,454	Koons	March 30, 1909
949,652	Klinke	February 15, 1910
1,075,747	Zimmer	October 14, 1913
1,100,146	Olson	June 16, 1914
1,137,752	Goldstein	May 4 1915
1,160,793	Van Keuren	November 16, 1915
1,165,958	Preas	December 28, 1915

Respectfully,
William O'Kaffer
Clerk

1159

1,262,860

FORM 3 MAIL ROOM AUG 23 1926 PATENTS Notice of Decision #2218

United States District Court
District of Indiana
Indianapolis Division

August 18, 1926

THE BUCKEYE INCUBATOR CO ET AL

VS

BERT BOLLING

812 Equity

To the Commissioner of Patents
Washington, D C

Sir:

In compliance with the Act of Feb 18 1922 notice is hereby given as to the above entitled action:

1. On February 8, 1926 the following decision was rendered:

Bill Dismissed for want of Equity. Judgment against plaintiff for costs.

1,262,860 April 16, 1918 Buckeye Incubator Co

Respectfully,
William P Kappes

William P Kappes
Clerk

1160

870

United States District Court

DISTRICT OF KANSAS

13

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 18th day of October, 1924, in the court an action, suit, or proceeding No. 627-K, entitled:

Name The Buckeye Incubator Co. and Samuel A. Smith, Plaintiffs

Address Springfield, Ohio

DEFEND

Name Claude Jones, Defendant,

Address Clay Center, Kansas

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,261,138	April 16,1918	The Buckeye Incubator Company
2	1,262,860	April 16,1918	The Buckeye Incubator Company
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 2nd day of October, 1924; at Topeka, Kansas

J. Campbell
Clerk of said Court.

(J. L. Campbell)

1161

871

United States District Court #24

Western DISTRICT OF Michigan So. Div.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 13th day of March, 1924 in this court an action, suit, or proceeding No. 2007, entitled:

Name Buckeye Incubator Company et al, Plaintiffs
Address Springfield, Ohio

versus

Name William R. Boalt, Defendant,
Address Mason, Michigan

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16, 1918	Buckeye Incubator Co., Assignee
2	1,263,138	" " "	" " " "
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Interlocutory Decree awarding injunction and accounting. Both patents held valid and infringed

In witness whereof I have affixed my hand this 9th day of October, 1924, at Grand Rapids, Mich.

Vera L. Pitch
Deputy Clerk of said Court.

2 7915 - 75

1162

872

$20

United States District Court

NORTHERN
District of ILLINOIS.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 16th day of September, 1924, in this court an action, suit, or proceeding No. 4275, entitled:

Name The Buckeye Incubator Co and Samuel B. Smith, Plaintiff,
Address Springfield, Ohio. Cleveland, Ohio.

AGAINST

Name Paul Schaeffer, Defendant,
Address Crystal Lake, McHenry Co., Ill.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	April 16, 1918.	Samuel B. Smith
2. 1,263,138	April 16, 1918.	Samuel B. Smith.
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

In testimony whereof I have affixed my hand this 9th day of October, 1924, at Chicago, Ill.

John H. R. Janas
Clerk of said Court.

1163

S[illegible]873

United States District Court

Northern DISTRICT OF Illinois.

#26

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 42 Stat. L. 392, you are advised that there was filed on the 5th day of November, 1924, in this court an action, suit, or proceeding No. 861, entitled:

Name The Buckeye Incubator Co. and Samuel S. Smith, Plaintiff,

Address Springfield and Cleveland Ohio,

versus

Name Otto Kuehl, Defendant,

Address Minok, Illinois

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,262,860.	April 16,1918	
2		
3		
4		
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

Consent Decree, entered Dec. 15, 1924. Injunction, Damages.

In testimony whereof I have affixed my hand this 16th day of December, 192 4, at Peoria, Illinois.

S. T. Burnett
Clerk of said Court.

1164

874

United States District Court

DISTRICT OF Illinois.

#27

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 11th day of February, 1925, in this court an action, suit, or proceeding No. 483 entitled:

Name The Buckeye Incubator Co. and Samuel B. Smith. Plaintiff,

Address Springfield, Ohio.

Name L. V. Rinkenberger Defendant,

Address Gridley, County of McLean, Illinois.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860.	April 16th, 1918	Samuel B. Smith, Cleveland, Ohio.
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192

the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In testimony whereof I have affixed my hand this 11th day of February, 1925, at Springfield, Illinois.

L. J. Bennett
Clerk of said Court.

1165

875

United States District Court

#28

NORTHERN DISTRICT OF OHIO, WESTERN DIVISION

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 25th day of May, 1925, in this court an action, suit, or proceeding No. 534 Equity, wherein

Name: The Buckeye Incubator Co. Springfield, Ohio. and Samuel B.Smith,
Address: Cleveland, Ohio, Plaintiff,

Name: Otto Vent
Address: [illegible] Tuscarawas County, Ohio. Defendant,

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,263,[illegible]	April 16,1918	The Buckeye Incubator Co.
2		subject to rights of Samuel B.Smith
3 1,262,860	April 16, 1918	The Buckeye Incubator Co.
4		subject to rights of Samuel B.Smith
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):-

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

No decision rendered or decree entered

In witness whereof I have affixed my hand this 25th day of May, 1925, at Toledo, Ohio.

S. C. Miller, Clerk,

By [signature] Deputy Clerk of said Court.

1166

876

United States District Court

Southern District of California

Honorable Commissioner of Patents,
Washington D.C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 22nd day of September, 1926, in this court an action, suit, or proceeding No. I-19-B, entitled:

Name The Buckeye Incubator Co. and Samuel B. Smith, Plaintiff,
Address Springfield, O. Cleveland, O.

versus

Name R. P. Berk and Mrs. E.P.Berk, doing business under the name of Berk's Hi-Grade Hatchery, Defendant,
Address LONG BEACH, Calif.

A brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	Apr.16.1918	Samuel B. Smith
2. 1,263,138	Apr.16.1918	Samuel B. Smith
3.		
4.		
5.		

In the above-entitled case, on the _____ day of _____, 19__, the following patents have been included by _____ (Court amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

Consent decree entered Aug. 12, 1935, acknowledging validity of plaintiffs' patents and infringement thereof and granting a perpetual injunction.

In testimony whereof I have affixed my hand this 13th day of August, 1935, at Los Angeles.

CHARLES W. WILLIAMS, Clerk
By Edmund L. Smith, Deputy Clerk.

1167

United States District Court

Southern DISTRICT OF Ohio

#30

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (41 Stat. L.), you are advised that there was filed on the 5th day of September, 1925, in this court an action, suit, or proceeding No. 397 In Equity, entitled:

Name The Buckeye Incubator Co, and Samuel B Smith, Plaintiff,
Address Springfield, Ohio (Buckeye Inc, Co) Cleveland, O. (Smith)

PATENTEE

Name A. E. Grimes, doing business as Ohio Hatchery, Defendant,
Address Decatur, Brown Co., Ohio.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,263,138	April 16,1918	Samuel B Smith-
2			The Buckeye Incubator Co, Inc.
3	1,262,860	April 16,1918	Do.
4			
5			

In the above-entitled case, on the ____ day of ____, 192 , the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 5th day of September, 1925, at Cincinnati, Ohio.

12-19-25
GL

B. C. Dilley
Clerk of said Court.

By G. V. Lamb Deputy

1168

878

United States District Court

DISTRICT OF Ohio

#306(a)

HONORABLE COMMISSIONER OF PATENTS.
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 5th day of September, 1926, in this court an action, suit, or proceeding No. 397 Eq., entitled:

Name The Buckeye Incubator Co and Samuel B Smith, Plaintiff,

Address Springfield, Ohio & Cleveland, Ohio.

versus

Name A E Grimes, doing business as Ohio Hatchery, Defendant,

Address Decatur, Ohio.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1263138	April 16th, 1918	The Buckeye Incubator Co.
2	1262860	April 16th, 1918,	The Buckeye Incubator Co.
3			
4			
5			

In the above-entitled case, on the day of , 192 , the following patents have been included by (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:
Final Decree for Complainants, September 13th, 1926,

In witness whereof I have affixed my hand this 13th day of September, 192 6, at Cincinnati, Ohio,

Harry F Rabe,
Clerk of said Court.

By G. V. Lamb Deputy.

1169

829

731

MAIL ROOM MAY 26 1926 PATENT OFFICE

United States District Court

Eastern DISTRICT OF Tennessee
Northern Division

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 23rd day of June, 1925, in this court an action, suit, or proceeding No. 55-Eq, entitled:

Name The Buckeye Incubator Co. and S.B.Smith, Plaintiff,
Address Springfield, Ohio. Cleveland, Ohio

versus

Name F. E.Hicks and Mrs. F.E.Hicks, Defendant,
Address Fountain City, Knoxville, Tennessee

brought upon the following patents:

	PATENT NO	DATE OF PATENT	PATENTEE
1	1,262,660	Apl.16,1918	S.B.Smith, Assignor The Buckeye Inc
2	1,263,135	Apl.16,1918	" " " " "
3			
4			
5			

In the above-entitled case, on the day of 192 , the following patents have been included by (insert amendment, answer, cross bill, or other pleading):

	PATENT NO	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Feb.13,1926; Adjudging letters patent good and valid, enjoining infringement by defts., and perpetual injunction directed to defts, agents, attys and workmen, and adjudging costs against defts.

In witness whereof I have affixed my hand this 24th day of May, 192 6, at Knoxville, Tennessee

Lee A. Beeler, Clerk of said Court.
By [illegible] D.C.

1170

880

Form 101

United States District Court

District of NEW JERSEY

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. ——), you are advised that there was filed on the 11th day of June, 192 4, in this court an action, suit, or proceeding No. E-278, entitled:

Name The Buckeye Incubator Company & Sam'l B. Smith, Plaintiff,
Address Springfield, Ohio Cleveland, Ohio.

DEFEND

Name Elden E. Cooley, Defendant,
Address Frenchtown, N. J.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,263,138	Feb. 12, 1916	Samuel B. Smith
2	1,262,860	Oct. 26, 1916	Samuel B. Smith
3			
4			
5			

In the above-entitled case, on the —— day of ——, 192 , the following patents have been included by —— (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

May 6th, 1926 Interlocutory decree after trial

In witness thereof I have affixed my hand this 1st day of June, 1926, at Trenton, N. J.

George T. Granger
Clerk of said Court.

1171

881

United States District Court

#33

Northern District of Ohio (Eastern Division)

HONORABLE COMMISSIONER OF PATENTS:
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. ....), you are advised that there was filed on the 12th day of July, 1926, in this court an action, suit, or proceeding No. 1966, entitled:

Name The Buckeye Incubator Co., et al., Plaintiff,

Address Springfield, Ohio.

versus

Name Joseph A. Blum, d.b.a. Twentieth Century Hatchery, Defendant,

Address New Washington, Ohio.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,660	April 16, 1918	The Buckeye Incubator Co.
2			
3			
4			
5			

In the above-entitled case, on the ..... day of ....., 192 , the following patents have been included by ..... (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

.....

.....

In witness whereof I have affixed my hand this 12th day of July, 1926, at Cleveland, Ohio.

R. C. MILLER, Clerk of said Court.

By C. A. Wilson Deputy Clerk.

12] 915
88

1172

882

UNITED STATES DISTRICT COURT

#3960

Northern District of Ohio, Eastern Division.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat.L. ....), you are advised that there was filed on the 12th day of July 192 6, in this court an action, suit, or proceeding No. 1966 entitled

Name The Buckeye Incubator Co., et al., Plaintiff

Address Springfield, Ohio.

versus

Name Joseph A. Blum, d.b.a. Twentieth Century Hatchery, Defendant

Address New Washington, Ohio.

brought upon the following patents:

PATENT NO.	DATE OF PATENT.	PATENTEE.
1,262,860	April 16, 1918.	The Buckeye Incubator Co.

2

In the above-entitled case, on the day of 192 , the following patents have been included by (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT.	PATENTEE.

In the above-entitled case the following decision has been rendered or decree issued: March 4, 1927. Blum has not infringed patent to Samuel B. Smith No. 1,262,860. Decree to run in favor of The Aero Incubator Co. and its successors. Bill of Complaint dismissed. Defendant to recover of Plaintiffs his costs. D. C. Westenhaver, Judge.

IN WITNESS WHEREOF I have affixed my hand this 4th day of March, 192 7, at Cleveland, Ohio.

89

E. C. Wilson, Clerk of said Court,

By G. L. Patterson, Deputy Clerk.

1173

883

MAIL ROOM JUL 19 1926 PATENT OFFICE

F 34

United States District Court

Western District of Wisconsin

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. ....), you are advised that there was filed on the 16th day of July, 1926, 192, in this court an action, suit, or proceeding No. 117, F.Eq, entitled:

Name THE BUCKEYE INCUBATOR CO ET AL, Plaintiff,

Address SPRINGFIELD, OHIO

versus

Name CHARLES P. BRADLEY ET AL, Defendant,

Address PORT ATKINSON, WISCONSIN

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1.	1,262,660	April 16, 1918	Samuel B. Smith
2.			
3.			
4.			
5.			

In the above-entitled case, on the ..... day of ....., 192, the following patents have been included by ..... (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:

.....

.....

.....

In testimony whereof I have affixed my hand this 16th day of July, 1926, 192, at Madison, Wisconsin

H. C. Hale
Clerk of said Court.

884

DEC 13 1926

United States District Court

#35

EASTERN DISTRICT OF ILLINOIS

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 23rd day of December, 192 , in this court an action, suit, or proceeding No. 2462, entitled:

Name The Buckeye Incubator Company and Samuel B. Smith, Plaintiff,

Address Springfield, Ohio Cleveland, Ohio

DEFENDANT

Name O. B. Ulmer and Dr. Fred Schroeder, Defendant,

Address both at Strasburg, Shelby County, Illinois

F

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,263,138	April 16, 1918	Samuel B. Smith, Cleveland, Ohio.
2	1,262,860	April 16, 1918	Samuel B. Smith, Cleveland, Ohio
3			
4			
5			

In the above-entitled case, on the 23rd day of December, 192 , entry of appearance of defendants and waiver of service and [illegible] answers of each defendant filed.

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3		none	
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Final Decree of Court entered on December 23rd, 1926, finding patent rights good and valid to Samuel B. Smith, the Buckeye Incubator Co. being owner of entire right, title and interest in said patents. Plaintiffs to recover profits, &c, and costs of suit from defendants, and perpetual injunction against said dfts. in this behalf.

In witness whereof I have affixed my hand this 27th day of December, 1926, at East St. Louis, Illinois

Marshall E. Sampson
Clerk of said Court.

1175

885

F 36

District Court of the United States

District of 3rd Circuit

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 19 day of January, 1926, in this court an action, suit, or proceeding No. 5510, entitled:

Name Elden E. Cooley, Appellant, Plaintiff,
Address Plainfield New Jersey.

VERSUS

Name The American Ingot Co. & Samuel M. Smith, Appellee, Defendant,
Address Springfield Ohio Cleveland Ohio

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1.	1,260,185	April 16 1918	The American Ingot Company
2.	1,262,960	" " "	" " "
3.			
4.			
5.			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:

Order Affirming Lower Court Upon Opening Decree of Lower Court

In testimony whereof I have affixed my hand this 10th day of February, 1926, at Philadelphia Pa.

Clerk of said Court.

#37

JUN 10 192

No. 4797

United States Circuit Court of Appeals

SIXTH CIRCUIT

THE BUCKEYE INCUBATOR COMPANY and SAMUEL B. SMITH,
Plaintiffs-Appellants,
v.
IRA M. PETERSIME and RAY PETERSIME,
Defendants-Appellees.

APPEAL from the District Court of the United States for the Southern District of Ohio, Western Division.

Decided June 10, 1927.

Before DENISON, MOORMAN and KNAPPEN, Circuit Judges.

MOORMAN, Circuit Judge: The decree below dismissed a bill for infringement of United States Letters Patent 1,262,850 to Samuel B. Smith, covering a hatching method for eggs and an apparatus for practicing it. The validity of the patent has been sustained in *Buckeye Incubator Co.* v. *Wolfe*, 291 Fed. 283, affirmed (6 C. C. A.) 296 Fed. 680, and in *Buckeye Incubator Co.* v. *Cooley* (3 C. C. A.) —— Fed. ——. The process and the device used by Smith are fully described in the opinion in the Wolfe case. There is no new art in this case which, upon a reconsideration of validity, would control the conclusion reached by the court

in that case. Claims 1, 2 and 3 set out in the margin are involved.* They are method or process claims.

In the advanced stage of incubation, eggs generate and emit heat. They also require more oxygen than eggs in the earlier stages. Proper incubation must take into account the disposition or diffusion of this emitted heat, the carrying off of the carbon dioxide also emitted from the further advanced eggs and the supplying of the additionally needed oxygen to those eggs without undue loss of the requisite moisture and uniformity of temperature. Smith claims that his invention covers any process of applying heated air to eggs at different stages of incubation whereby these essential steps are effected. His apparatus consists of a box divided into three compartments, one of which is known as a corridor, which separates the side compartments in which there are trays of eggs. The heated air is taken in from the top of the corridor and is driven in a defined course by fans traveling at the rate of about 1700 revolutions a minute to the bottom of the corridor, where it is mushroomed against the floor and escapes under the partitions into the compartments on either side and then ascends (first, through the trays of eggs in the more advanced stage of incubation) to the top of the corridor through openings at the top of the partitions,

---

* 1. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a current of heated air, said current being created by means other than variations of temperature and of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

2. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a power driven current of heated air in an adjacent chamber through openings into the egg chamber, said current being of sufficient velocity to circulate, diffuse and maintain the air throughout the egg chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

3. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a vertically directed current of heated air in an adjacent chamber to circulate in said egg chamber through upper and lower openings between said chambers, said current being created by mechanically moving means of such velocity as to diffuse and maintain the air throughout the egg chamber at substantially the same temperature whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in the less advanced stage for the purpose specified.

part of it passing out of the box through openings over the sides of the compartments. The Petersime device is an open box without partitions, in which there are egg trays of different sizes arranged in a drum. The heated air is taken in at the bottom of the cabinet and rises primarily because it is heated. There are inlets for air at the bottom and outlets at the top. The air in the drum is agitated by a slow-moving stirrer, but there is no defined current created by the agitation that drives the air first upon the eggs in the more advanced stage of incubation, although it is admittedly so mixed that the heat units from those eggs are diffused throughout the entire drum. There is a thorough mixing of the air but no application of defined air currents.

As we have seen, the apparatus of Smith discloses a defined current of air driven first over the warmer eggs. His process claims may nevertheless be sustained upon a broader ground than exemplified in the device if their language justifies such interpretation. Claim 1 calls for the application of "a current of heated air, said current being created by means other than variations of temperature * * * whereby * * * units of heat will be carried from eggs in the more advanced stage of incubation to those in a less advanced stage." Claim 2 calls for a "power driven current of heated air in an adjacent chamber" * * * said current being of sufficient velocity to circulate, etc., whereby * * * the units of heat will be carried from the eggs in the more advanced stage of incubation to those in the less advanced stage. Claim 3 is even more restricted, calling for "a vertically directed current of heated air in an adjacent chamber * * * said current being created by mechanically moving means * * * whereby * * * the units of heat will be carried from the eggs in the more advanced stage of incubation to those in the less advanced stage * * *." It is thus to be seen that all of the claims call for a current of heated air, limited in Claims 2 and 3 to "power driven" and "vertically directed." The question is whether the broader phrase of Claim 1, "applying a current of heated air," includes the agitation of air, not in defined currents, but so that it will produce a diffusion of heat units resulting in uniformity of temperature.

Looking to the language of the claims, as indeed to the device that Smith uses, it would seem that he had in mind a process by which the warm air taken into the corridor would be currently directed so as to strike first the eggs in the more advanced incubation, take to them the additional needed oxygen, and carry the heat units there-

from to other parts of the two compartments, thus effecting, in part at least, a uniformity of temperature throughout the egg chambers. This interpretation, we think, is borne out by the specifications. They refer to a "forced circulation of hot air," to subjecting the eggs to a "column of air," to moving the eggs to a different position "with reference to the forced circulation of hot air," to forcing the air "to pass between the different eggs" which will in effect "act as a cooling medium" for the more advanced eggs, all of which contemplate a defined current of air by which certain eggs may be cooled and given the additionally needed oxygen and others may be warmed by the heat units which the current carries from the more advanced eggs. The file wrapper history of Smith's patent tends to support the same conclusion. This conception of a current of air driven in a definite or predetermined direction is different, we think, from the Petersime process, by which diffusion of heat units and uniformity of temperature is obtained by the slow stirring or agitation of the air in the egg chamber.

Judgment affirmed.

890

Form 760

MAIL ROOM JUN 25 1927 PAT. OFF.

District Court of the United States

#38

Northern District of Ohio, Eastern Division.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 24th day of June, 1927, in this court an action, suit, or proceeding No. 775 In Equity, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff
Address Cleveland, Ohio Springfield, Ohio

VERSUS

Name William F. Almendinger and Paul Almendinger, Defendant
Address Prospect, Ohio

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16, 1918	The Buckeye Incubator Company
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 19__, the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

No decision rendered or decree issued.

In testimony whereof I have affixed my hand this 24th day of June, A.D., 1927, at Toledo, Ohio.

B. C. MILLER, Clerk.

By _____ Deputy Clerk of said Court.

1181

6/27

891

39

MAIL ROOM JUN 25 1927 OFFICE

Form 140

District Court of the United States

Northern *District of* Ohio, Western Division.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 24th day of June, 1927, in this court an action, suit, or proceeding No. 776 In Equity, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiffs
Address Cleveland, Ohio. Springfield, Ohio.

versus

Name Harry Almendinger, Defendant.
Address Rocky Ridge, Ohio

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,869	April 16, 1918	The Buckeye Incubator Company
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

No decision rendered or decree issued.

In testimony whereof I have affixed my hand this 24th day of June, A. D., 1927, at Toledo, Ohio.

R. C. MILLER, Clerk,

By _____ Deputy *Clerk of said Court.*

1182

892

$7

UNITED STATES DISTRICT COURT

DISTRICT OF MINNESOTA.

Honorable Commissioner of Patents,
Washington, D.C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat.L. 388), you are advised that there was filed on the 27th day of June, 1927, in this court an action, suit, or proceeding No. 809 Equity, entitled:

NAME Samuel B.Smith and The Buckeye Incubator Company PLAINTIFF,
ADDRESS Cleveland, Ohio, and Springfield, Ohio, respectively.

versus

NAME Richard Portinga and Riner Portinga, trading as All-State Hatchery Company DEFENDANT,
ADDRESS Willmar, Minnesota.

brought upon the following patents:

	Patent No.	Date of Patent	Patentee
1.	1 262 860	April 16-1918	Buckeye Incubator Company
2.			(Samuel B.Smith, Assignee)
3.			
4.			
5.			

In the above-entitled case, on the _____ day of _____, 192_, the following patents have been included by _____ (insert amendment, answer, cross-bill, or other pleading):

	Patent No.	Date of Patent	Patentee
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF I have affixed my hand this 27th day of June, 192 7, at Minneapolis, in said District

Joel M.Dickey.
Clerk of said Court.
By _____
Deputy Clerk.

1163

RECD, SEP 1927, U.S. PATENT OFFICE

#4084

UNITED STATES DISTRICT COURT

DISTRICT OF MINNESOTA.

Honorable Commissioner of Patents,
Washington, D.C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat.L.), you are advised that there was filed on the 27th day of June, 1927, in this court an action, suit, or proceeding No. 809 Equity, entitled: Samuel B.Smith and The Buckeye Incubator Company PLAINTIFF, of Clevelend, Ohio, and Springfield, Ohio, respectively.

Versus

Robert Perkins and Elmer Perkins, trading as Mid-State Brooder Company, DEFENDANT, of Willmar, Minnesota.

brought upon the following patents:

Patent No.	Date of Patent	Patentee
1. 1,228,660	April 12-1917	Buckeye Incubator Company
2.		(Samuel B.Smith, Assignee)
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 192__, the following patents have been included by ____ (insert amendment, answer, cross-bill, or other pleading):

Patent No.	Date of Patent	Patentee
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or entered: Final Consent Decree filed and entered in favor of Plaintiffs, July 15,1927.

IN WITNESS WHEREOF I have affixed my hand this 15th day of July, 192 7, at Minneapolis, in said District.

Joel B.Dickey
Clerk of said Court.

By _____, Deputy.

884

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Fourth Division.

#41

Honorable Commissioner of Patents
Washington, D.C.

Sir:

In compliance with the Act of February 18,1922 (42 Stat.L.388) you are advised that there was filed on the 18 day of July 1927 in this Court an action, suit, or proceeding No 513 Equity entitled:

Name Samuel B.Smith and The Buckeye Incubator Company Plaintiff,

Address Cleveland and Springfield,Ohio, respectively.

versus

Name Herbert A.Schimelpfenig Defendant

Address Chaska, Minnesota

brought upon the following patents:

Patent No.	Date of Patent	Patentee
1 262 860	April 16,1918	Buckeye Incubator Co. (Samuel B.Smith, Assignee)

In the above-entitled case, on the ____ day of _____ 192__ the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

Patent No.	Date of Patent	Patentee

In the above-entitled case the following decision has been rendered or decree issued:

In Witness Whereof I have affixed my hand this 18th day of July 1927 at Minneapolis, in said District.

Joel B.Dickey, Clerk of said Court.

By _____, Deputy Clerk.

1185

F4/R.

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Fourth Division.

Honorable Commissioner of Patents,
Washington, D.C.

Sir:

In compliance with the Act of February 18,1922 (42 Stat.L.388) you are advised that there was filed on the 18th day of July 192 7 in this Court an action, suit, or proceeding in Equity entitled:

Name: Samuel B.Smith and The Buckeye Incubator Company, Plaintiff,
Address: Cleveland and Springfield,Ohio, respectively

versus

Name: Herbert A.Schimelpfenig, Defendant
Address: Chaska, Minnesota

brought upon the following patents:

Patent No.	Date of Patent	Patentee
1 282 860	April 16,1918	Buckeye Incubator Co. (Samuel B.Smith, Assignee)

In the above-entitled case, on the 27th day of August 192 7 the following patents have been included by Answer (insert amendment, answer, cross bill, or other pleading):

Patent No.	Date of Patent	Patentee
3 019	March 30,1843	Guerin
120 253	Oct 24,1871	Underwann
152 644	June 30,1874	Jones
272 744	Feb. 20,1883	Morgan
240 004	April 12,1881	Bate
286 756	Oct 16,1883	Winkler
297 676	April 29,1884	Conant
320 463	June 23,1885	Cutting
330 457	Nov. 17,1885	Rasaini
344 474	June 29,1886	Campbell
359 676	May 5,1893	Christianson
591 870	Oct. 19,1897	Morgan
410 110	Aug. 27,1889	Knowles et al
432 282	July 16,1890	Proctor
535 175	March 5,1895	Schwartz
553 723	Jan. 28,1896	Proctor
11 460	Dec. 25,1894	Re-issue Patent Proctor
691 837	Jan. 28,1902	Bell
709 650	Sept. 23,1902	Scott
725 049	April 14,1903	Hawkins
728 181	Dec. 1,1903	Perkins
738 697	Aug. 7,1903	Boyd
736 358	Sept. 8,1903	Perkins
891 019	April 28,1908	Osborn
916 273	June 16,1908	Verna
916 454	March 23,1909	Cocne
949 653	March 30,1909	Koons
1 076 747	Feb. 15,1910	Klinke
1 100 186	Oct 14,1913	Zimmer
1 137 752	June 16,1914	Olson
1 160 795	May 4,1915	Goldstein
1 168 956	Nov 16,1915	Van Keuren
1 206 445	Dec 28,1915	Frese
	Nov 21,1916	Fullirgton

MAIL ROOM SEP 8 1927 U.S. PATENT

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Fourth Division.

#4178

Honorable Commissioner of Patents,
Washington, D.C.

Sir:

In compliance with the Act of February 18,1922 (42 Stat.L.) you are advised that there was filed on the 7th day of July 1927 in this Court an action, suit, or proceeding in Equity entitled:

Name SAMUEL B.Smith and The Buckeye Incubator Company Plaintiff,

Address Cleveland and Springfield,Ohio, respectively.

versus

Name Herbert A.Schimelpfenig Defendant

Address Chaska, Minnesota

brought upon the following patents:

Patent No.	Date of Patent	Patentee
1 262 860	April 16,1918	Buckeye Incubator Co. (Samuel B.Smith, Assignee).

In the above-entitled case, on the 27th day of August 1927 the following patents have been included by Answer (Insert amendment, answer, cross bill, or other pleading):

Patent No.	Date of Patent	Patentee

In the above-entitled case the following decision has been rendered or decree issued:

In Witness Whereof I have affixed my hand this 27th day of August 1927 at Minneapolis, in said District.

Thos. D. Dickey, Clerk of said Court.

By [signature] Deputy Clerk.

897

District Court of the United States

District of MARYLAND.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 11th day of July, 192 7, in this court an action, suit, or proceeding No. 1891 Equity, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Cleveland, Ohio - Springfield, Ohio, Plaintiff's
Address

versus

Name Mortimer F. Lee, Defendant,
Address St. Michaels, County of Talbot, State of Maryland.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1.	1,262,860	April 16, 1918	The Buckeye Incubator Company.
2.			
3.			
4.			
5.			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1.			
2.			
3.			
4.			
5.			

In the above-entitled case the following decision has been rendered or decree issued:

In testimony whereof I have affixed my hand this thirtieth day of July, 1927, at Baltimore, Maryland.

Arthur L. Spamer
Clerk of said Court.

1188

AUG 5 1927 U.S. PATENT

United States District Court

DISTRICT OF NEBRASKA

OFFICE OF THE CLERK

#43

Omaha, August 3, 1927

Hon. Commissioner of Patents,
Washington, D.C.

Sir:

You are hereby advised that on this date, proceedings were commenced by Samuel B. Smith (of Cleveland, Ohio) and The Buckeye Incubator Company (principal place of business at Springfield, Ohio) against L.M. Porter and Daniel L. Gruenig, trading as Omadale Hatchery and Poultry Farm, (at R.F.D. No.8 Florence Station, Omaha, Nebraska) Case No. 866 Equity, alleging infringement of U.S. Letters Patent No. 1,262,860 dated April 16, 1918, issued to The Buckeye Incubator Company subject to the rights of said Samuel B. Smith etc.

Respectfully,

R.C. Hoyt, Clerk,

By John Nicholson
chief deputy.

ATTEST: R.C. Hoyt, Clerk
By John Nicholson
chief deputy.

1189

NOV 28 1927 U.S. PATENT

#44

District Court of the United States

District of KANSAS, FIRST DIVISION.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 25th day of November 1927, in this court an action, suit, or proceeding No. 914-M, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff.
Address Cleveland, Ohio Springfield, Ohio

DEFENDANT

Name John E. Seber, Defendant,
Address Leavenworth, Kansas

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,262,860		
2		
3 D W. F. O. M. W.		
4		
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

November 26th. 1927 Decree for Perpetual injunction against defendant, John E.Seber, filed and entered of record.

In testimony whereof I have affixed my hand this 25th day of November, 192 7, at Topeka, Kansas.

Clerk of said Court.

1190

900

MAIL ROOM MAR 31 1928 PATENT OFFICE

#44-

Form 150

District Court of the United States

Southern DISTRICT OF New York

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 30th day of March, 1928, in this court an action, suit, or proceeding No. Eq 44-399, entitled:

Name Samuel G. Smith and The Buckeye Incubator Co. Plaintiff,
Address Cleveland O. Springfield O.

Name Howard E. Van Winkle Defendant,
Address New York NY

served

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1262,860	April 16, 1918	Buckeye Incubator Co.
2	1263,138	" 16, "	" " "
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 19__, the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF I have affixed my hand this 30th day of March, 1928, at New York NY

Alex Gilchrist
Clerk of said Court

1191

MAIL ROOM MAR 31 1928 FROM THE PATENT OFFICE

901
F 46

District Court of the United States

Southern DISTRICT OF New York

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 30th day of March, 1928, in this court an action, suit, or proceeding No. Eq 44-400, entitled:

Name Samuel B. Smith and The Buckeye Incubator Co., Plaintiff,
Address Cleveland O. - Springfield O.

versus

Name Gerald R. Shew, Defendant,
Address New York N.Y.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1262,860	April 16 1918	Buckeye Incubator Co.
2	1263,138	" 16 "	" " "
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF I have affixed my hand this 30th day of March, 1928, at New York N.Y.

Alex Gilchrist Jr.
Clerk of said Court.

1192

902

RECEIVED
APR
6
1928
PATENT OFFICE

#47

District Court of the United States

Southern DISTRICT OF New York

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 30th day of March, 1928, in this court an action, suit, or proceeding No. Eq 44-399, entitled:

Name Samuel B. Smith and The Buckeye Incubator Co, Plaintiff,
Address Cleveland, O. - Springfield, O.

Name Howard E. Van Winkle, Defendant
Address New York City

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,760	April 16, 1918	Buckeye Incubator Co
2	1,263,138	" 16, "	" "
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Mack

Filed April 5, 1928

IN WITNESS WHEREOF I have affixed my hand and the Seal of said Court this 5th day of April, 1928, at New York City, N. Y.

Clerk of said Court.

1193

903

District Court of the United States

District of 3rd Circuit

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 10 day of September, 1927, in this court an action, suit, or proceeding No. 3697, entitled:

Name The Buckeye Incubator Co. & Jamme B. Smith, Plaintiffs—
Address Springfield Ohio Cleveland Ohio

VERSUS

Name Lorraine F. Krueger, Defendant,—
Address Jeffersonville Ohio

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1262860	April 16, 1918	The Buckeye Incubator Co. and Jamme B. Smith
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Order affirming decree of lower Court.

In testimony whereof I have affixed my hand this 16th day of April, 1928, at Philadelphia Pa.

Clerk of said Court.

1194

904

MAIL ROOM
APR
6
1928
U.S. PATENT OFFICE

749

District Court of the United States

Southern DISTRICT OF New York

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 30th day of March, 1928, in this court an action, suit, or proceeding No. E 44-400, entitled:

Name Samuel B. Smith and The Buckeye Incubator Co. Plaintiff,
Address Cleveland, O - Springfield, O.

versus

Name Gerald R. Hess Defendant,
Address New York, N.Y.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1262,760	April 16, 1918	Buckeye Incubator Co.
2	1,263,131	" 16, 1918	" "
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192_, the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

3rd April 5, 1928. Motion

Def. to recover damages + Costs. 5th day of April, 1928, at New York N.Y.

IN WITNESS WHEREOF I have affixed my hand this _____

Alex Gilchrist Jr.
Clerk of said Court.

1195

MAIL ROOM U.S. PATENT OFFICE

United States District Court

District of Oregon.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D.C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 18th day of April, 1928, in this court an action, suit, or proceeding No. E-2264, entitled:

Name Samuel B.Smith and The Buckeye Incubator Company, Plaintiff,

Address Cleveland, Ohio

VERSUS

Name Walter E. Wood, Defendant,

Address Sealy, Oregon.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,840	April 16, 1918	The Buckeye Incubator Company
2. 1,263,138	" 16, 1918.	The Buckeye Incubator Company.
3.		
4.		
5.		

In the above-entitled case, on the day of , 193 , the following patents have been included by (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 19th day of April, A.D., 1928, at Portland, Oregon.

G. H. Marsh
Clerk of said Court

1198

906

MAIL ROOM APR 1938 U.S. PATENT OFFICE

United States District Court

District of ____ 1008

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. ____), you are advised that there was filed on the 20th day of April, 1938, in this court an action, suit, or proceeding No. E- 8966, entitled:-

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,

Address Cleveland, Ohio

versus

Name Harry E. Lonam, Defendant,

Address Salem, Oregon

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	April 16, 1918	The Buckeye Incubator Company
2. 1,263,138	April 16, 1918	The Buckeye Incubator Company
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

In testimony whereof I have affixed my hand this 20th day of April, 1938, at Portland, Oregon.

G. H. Marsh
Clerk of said Court.

1197

#52

Circuit of Appeals

District Court of the United States

District of 3rd Circuit

COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 10 day of September, 1927, in this court an action, suit, or proceeding No. 3698, entitled:

William F. Killefer, Appellant, Plaintiff,

vs.

The Buckeye Incubator Company and Emmett B. Dennett, Springfield, Ohio, Appellee, Defendant,

Clarence A. Seward, Commissioner of Patents

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1,262,860	April 16, 1918	The Buckeye Incubator Co v Emmett B. Dennett

In the above-entitled case, on the ____ day of ____, 192 , the following patents have been included by ____ (insert amendment, supplemental bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE

In the above-entitled case the following decision has been rendered or decree issued:

Order affirming decree of Lower Court

In testimony whereof I have affixed my hand this 16th day of April, 1928, at Philadelphia, Pa.

Clarence A. Seward
Clerk of said Court.

908

United States District Court

District of Oregon

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 18th day of April, 1928, in this court an action, suit, or proceeding No. E 2964, entitled:

Name Samuel B. [illegible] and The Buckeye Incubator Company, Plaintiff,

Address Cleveland, Ohio

VERSUS

Name Walter W. Reed, Defendant,

Address Canby, Oregon

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,880	April 16, 1918	The Buckeye Incubator Company
2. 1,263,138	April 16, 1918	The Buckeye Incubator Company
3.		
4.		
5.		

In the above-entitled case, on the _____ day of _____, 19 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

Decree in favor of complainant dated May 28, 1928

In witness whereof I have affixed my hand this 29th day of May, 1928, at Portland, Oregon

G. H. Marsh
Clerk of said Court.

By [signature] Deputy

1199

United States District Court

#54

District of Oregon

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 20th day of April, 1926, in this court an action, suit, or proceeding No. E 2966, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,

Address Cleveland, Ohio

vs.

Name Harry H. Lamm, Defendant,

Address Salem, Oregon

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	April 16, 1918	The Buckeye Incubator Company
2. 1,263,138	April 16, 1918	The Buckeye Incubator Company
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

Decree in favor of complainant dated May 28, 1928

IN WITNESS WHEREOF I have affixed my hand this 29th day of May, 1928, at Portland, Oregon.

G. H. Marsh
Clerk of said Court

By F. W. Brooke
Chief Deputy

1200

FILED
JUL 6 1928
ARTHUR B MUSSMAN
CLERK

No. 4951

UNITED STATES CIRCUIT COURT OF APPEALS

SIXTH CIRCUIT

THE BUCKEYE INCUBATOR COMPANY and SAMUEL B. SMITH, *Appellants*,

vs.

JOSEPH A. BLUM, *Appellee*.

APPEAL from the District Court for the Northern District of Ohio.

Decided June 30, 1928.

Before DENISON and MOORMAN, Circuit Judges, and ANDERSON, District Judge.

PER CURIAM: The court below held that the defendant there (appellee here) did not infringe the Smith patent, No. 1,262,860, issued April 16, 1918, for an incubator. The patent and its scope were discussed by this court in *Wolff* v. *Buckeye Co.*, 296 Fed. 680, and in *Buckeye Co.* v. *Petersime*, 19 Fed. (2nd) 721. They have been considered in other circuits in the cases mentioned in the note.[1] Further discussion of the main features is not now necessary.

Counsel for appellant frankly concede that there should be an affirmance, unless we are prepared to modify to some extent our holding in the Petersime case. In that opinion some acceptance was given to the theory that there is no infringement unless the circulating air strikes first those eggs which are in the last stages of incubation and are generating the greatest heat. In considering a construction where the main current of air is brought in from outside, and in thinking of only the first

[1] *Cooley* v. *Buckeye*, C. C. A. 3, 17 Fed. (2nd) 453; *Buckeye* v. *Hillpot*, C. C. A. 3, 24 Fed. (2nd) 341.

circuit which this air makes, that thought seems applicable. Counsel now point out, with much force, that in a case where the air does not come in from the outside in large volume, and that in any case during the circuits after the first one, no one point in the circuit gets the air ahead of any other point, in an absolute way. Which point gets it first, depends upon where we consider the circuit to begin. We think we need not consider the effect of this defect in the reasoning,—if it is a defect,—of our former opinion. The result in that case rests also upon the theory that the patent contemplates a distinct, or at least an identifiable, current of air, flowing like a stream in one direction. Upon reconsideration, we are satisfied that this theory is correct. Whether there is such a fairly distinct current, as distinguished from the general agitation employed by the defendant here, and in less degree by the defendant in the Petersime case, is said to be of no practical importance in achieving the successful result. Perhaps so; and yet dependence upon that theory, in order to sustain the patent, is required, both by the proceedings in the Patent Office and by the prior art, including Smith's too-old public use; Smith learned or knew he must differentiate in this respect in order to get his patent.

The decree below is affirmed.

912

MAIL ROOM JAN 1929 PATENT OFFICE

District Court of the United States

Southern *District of* Illinois.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 12th day of August, 1924, in this court an action, suit, or proceeding No. 298, entitled:

Name The Buckeye Incubator Company, and Samuel B Smith, Plaintiffs

Address Springfield, Ohio and Cleveland, Ohio, Respectively.

versus

Name P.& H.Hatchery (Inc.) Farrow & Hirsch Company, David T. Farrow and Abraham Hirsch. Defendant,

Address Peoria, Illinois.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860		
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Dismissing the case for want of equity at plaintiffs' costs, on January 4, 1929.

In testimony thereof I have affixed my hand this 4th day of January, 1929, at Peoria, Illinois.

_____
Clerk of said Court.

1203

MAIL ROOM APR 22 1929 U.S. PATENT OFFICE

#57

United States District Court

Western District of Oklahoma.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. ____), you are advised that there was filed on the 19th day of April, 1929, in this court an action, suit, or proceeding No. 1038-Equity, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,

Address Samuel B. Smith, Cleveland, Ohio, and The Buckeye Incubator Company, Springfield, Ohio.

versus

Name William M. Hobbs, Defendant,

Address Mangum, Oklahoma.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	April 16, 1918,	Samuel B. Smith, assignor to the Buckeye Incubator Co.
2.		
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 192 , the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:
Final Decree filed and entered April 19, 1929, on agreement of parties, holding Plaintiff's Letters Patent No. 1,262,860 valid, and defendant perpetually enjoined from infringing on plaintiffs said Letters Patent & Plaintiff's to recover costs.

In witness whereof I have affixed my hand this 20th day of April, 1929, at Oklahoma City, Oklahoma.

Theodore M. Filson, Clerk.
BY Earl J. Newton
Deputy Clerk of said Court.

1204

914

MAIL ROOM
MAY
8
1929
U.S. PATENT OFFICE

#51

District Court of the United States

Northern *District of* Ohio. Western Division

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 4th day of May, 192 9 in this court an action, suit, or proceeding No. 985 Equity, entitled:

Name Samuel B.Smith and The Buckeye Incubator Company, Plaintiff,

Address Cleveland and Springfield, Ohio, respectively

versus

Name Joseph F.Bushong, Defendant,

Address Deshler, Ohio.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,262860	April 16, 1918	The Buckeye Incubator Company
2		
3		
4		
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:
Decree by consent of parties, holding patent valid, plfs to recover ~~damages and ordering perpetual injunction.~~ Plaintiffs to recover costs. Matter of damages settled by parties.

In witness whereof I have affixed my hand this Fourth day of May, 192 9, at Toledo, Ohio.

B.C.Miller, Clerk,

By _____ Deputy Clerk.

1205

915

#59.

MAIL ROOM MAY 1929 U.S. PATENT OFFICE

District Court of the United States

Northern *District of* Ohio. Western Division.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 9th. day of May, 1929, in this court an action, suit, or proceeding No. 986 Equity, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,

Address Cleveland and Springfield, Ohio, respectively.

versus

Name George M. Glaser, Defendant,

Address McComb, Hancock County, Ohio.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16, 1918	The Buckeye Incubator Company.
2			
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Decree by consent of parties, holding patent valid, pfs to recover damages and ordering perpetual injunction. Plaintiffs to recover costs. Matter of damages settled by parties.

In witness whereof I have affixed my hand this Ninth day of May, 1929, at Toledo, Ohio.

B. C. Miller,
By _____ Deputy *Clerk of said Court.*

1206

916

United States District Court

#60

DISTRICT OF WASHINGTON

MAIL ROOM JUL 1929 U.S. PATENT OFFICE

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 22 day of July, 1929, in this court an action, suit, or proceeding No. E-9338, entitled:

Name SAMUEL B. SMITH and THE BUCKEYE INCUBATOR COMPANY, Plaintiffs

Address Cleveland, Ohio, and Springfield, Ohio, respectively,

PATENTEE

Name K. W. CASEY, E. V. CASEY and I. D. CASEY, Defendants

Address Casey, Walla Walla County, Washington

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1262860	April 16, 1918	THE BUCKEYE INCUBATOR COMPANY
2 1263138	"	"
3		
4		
5		

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

Final Decree in accordance with equities of respective parties signed and filed July 22, 1929, upon stipulation of counsel for plaintiffs and defendants.

In witness whereof I have affixed my hand this 24th day of July, 1929, at Walla Walla, Washington.

EVA M. HARDIN
Clerk of said Court.

By Dorothy Bumgarner
Deputy

1207

United States District Court

DISTRICT OF Missouri

#61

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L.), you are advised that there was filed on the 17th day of December, 192 5, in this court an action, suit, or proceeding No. 886-Equity, entitled:

Name The Buckeye Incubator Company and Samuel B. Smith, Plaintiff,

Address Springfield, Ohio, and Cleveland, Ohio, respectively.

DEFEND

Name The Miller Hatcheries Inc. and K. I. Miller, Defendant

Address Lancaster, Missouri

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16, 1918	The Buckeye Incubator Co.(Subject to rights of Samuel B.Smith)
2	1,263,138	April 16, 1918	" " " " " " "
3			
4			
5			

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

Opinion of court filed March 6, 1929, sustaining patents, declaring them infringed and awarding an accounting; on counter-claim making finding in Defendant's favor against plaintiff Buckeye Incubator Co., awarding an accounting in favor of plaintiff with interlocutory decree filed later date.

In witness whereof I have affixed my hand this 9th day of September, 192 9, at Hannibal, Missouri

Jas. J. O'Connor,
Clerk of said Court.

By O. N. Gillis, Deputy Clerk.

1208

IN THE UNITED STATES DISTRICT COURT FOR THE
NORTHERN DIVISION OF THE EASTERN
JUDICIAL DISTRICT OF MISSOURI.

BUCKEYE INCUBATOR CO., and
SAMUEL B. SMITH,
Plaintiff

vs. No. 285.

MILLER HATCHERIES, Inc.,
and K. E. Miller,
Defendants

MEMORANDUM OF THE COURT.

I.

This is an action for alleged infringement of two patents granted to plaintiff, S. B. Smith, on April 10, 1918. The patents are numbered 1,262,860 and 1,263,138. The patents were granted to Mr. Smith, assignor, to the Buckeye Incubator Company It seems that the applications for the patents has been assigned to the incubator company prior to the issuance of the patents. The first patent, 1,262,860 is said to be a patent on a method of incubating eggs, and on an apparatus for carrying that method into effect. Claims 1, 2, and 3 relate to the method, and claims 4 and 5 relate to the apparatus and incubator. Patent 1,263,138 relates to a method of turning eggs in the process of incubation. The object of the patent is described as being to provide means whereby the eggs can be equally and uniformally turned from one side to the other during the process of incubation

The defenses urged are the invalidity of the patents because lacking in invention, and non-infringement. The answer also contains a counterclaim.

Plaintiff Buckeye Incubator Company is engaged in the manufacture of incubators at Springfield, Ohio. Plaintiff Samuel B. Smith is also engaged in the manufacture of incubators at Cleveland, Ohio. The defendant, K. E. Miller, is engaged in the business of hatching chickens at Lancaster, Missouri, and operates this business under the name of Miller Hatcheries, Inc.

In August, 1923, the defendant notified the plaintiff corporation that he had some suggestion as to the modification and alternation of its incubator which would be valuable to the company in the practical operation of their machine. The plaintiff replied that it would be glad to have his ideas, and suggested to Mr. Miller that he come to Springfield, Ohio, for a conference. The letter to the defendant informed him that the plaintiff corporation would be willing to compensate the defendant for any new suggestions that he might make if the plaintiff corporation adopted them. In response to this letter the defendant went to Springfield and had a conference with the officers of the plaintiff corporation. There the defendant repeated the substance of his letter to the plaintiff corporation and stated that he was willing to reveal his suggestion and would be compelled to rely upon the good faith and promise of the officers of the corporate plaintiff to compensate him if he revealed his ideas about the alteration of the incubator. This was agreed to by the representatives of plaintiff corporation.

Thereupon the defendant suggested that the capacity of the Buckeye Incubator No. 7 could be increased without increasing the size of the machine by adding additional racks for egg

trays. This machine, No. 7, was equipped with nine incubetion trays and three hatching trays. The defendant suggested that the incubation trays be increased from 9 to 15. To add these additional trays lessened the space between each tray and necessitated cutting out a portion of the bottom of the front support for the tilting trays above. There was a dispute in the testimony as to whether the defendant made any suggestion about this latter point. He claims that he did, and that it was impossible to put the trays closer together without making this alteration in the front plate of the racks for the tilting trays. The plaintiff asserted that no suggestion with reference to this point was made by the defendant.

In addition to this suggestion the defendant also recommended that there be only one electrical connection to the three fans that were placed in the incubator. At that time this No. 7 machine had a separate electrical connection for each of the three fans. Another suggestion made by the defendant was that the opening for ventilation in the top of the incubator be enlarged on account of the additional capacity of the machine.

In this same conversation the defendant continued negotiations which had been opened by correspondence, to purchase some incubators, and on this trip he looked at some of their machines with the view of purchasing the same. During these conferences the officers of the plaintiff corporation told the defendant that it would be impossible for them to adopt his suggestion to increase the size of the machine because they had a contract with plaintiff Smith which provided in substance that the Buckeye Company was privileged to manufacture incubators according to the patents of a capacity of not over 12,500 eggs, and that plaintiff Smith had a contract with the Buckeye Company

to manufacture incubators with a capacity of not less than 25,000 eggs, and that between these two figures, 12,500 and 25,000, nobody was authorized to construct incubators according to the specifications of these patents. If the plaintiff corporation adopted defendants' suggestion by adding the additional trays that the No. 7 machine would have a capacity of more than 12,500 and would, therefore, violate the contract with plaintiff Smith.

Further conversation then took place as to whether or not the defendant Miller had the authority on his own initiative to increase the number of trays in his No. 7 incubator, each of the parties stating that the advice of a patent lawyer would be sought.

When the defendant returned to Lancaster, Missouri, he wrote a letter dated September 3, 1923, to the plaintiff corporation in which he offered to buy 12 No. 7 Buckeye incubators at a stated price, provided the plaintiff would take certain incubators then owned by defendant in part payment. This letter contained the following sentence: "If I could not double the capacity of the Buckeye machines, I would not care so much about them." This letter was answered by a telegram dated September 10, 1923, in which the plaintiff corporation informed the defendant that it had entered his order for the twelve incubators

II

We do not regard the defense of invalidity as having been seriously pressed in this case. These patents have been so often before the courts that we feel justified in assuming that the validity of the patent has been fully established. Buckeye v. Cooley, 17 Fed. (2) 453, CCA 3; Buckeye v. Petersime, 19 Fed. (2) 721, CCA 6; Buckeye v. Hillpot, 24 Fed. (2) 342, CCA 3.

The defendant asserts that in view of the fact that his letter of September 3rd was accepted, that the plaintiff corporation has consented for him to increase the capacity of the Buckeye machines, and, therefore, that there can be no infringement.

To determine this question the entire correspondence has been carefully examined. The letter of September 3rd, covered two type-written pages. It contained no only an offer to buy the Buckeye machines at a certain price, but it also contained a proposition for the plaintiff corporation to take over second-hand incubators owned by the defendant under certain terms and conditions. The telegram accepted the proposition contained in this letter. There is a statement in the letter to the effect that the defendant was interested in doubling the capacity of the incubators. But the offer was not conditioned upon his ability to do this. Moreover, the parties by their subsequent conduct indicated that they did not interpret the contract as amounting to a consent to make the alterations because they continued to negotiate in an effort to determine whether or not the defendant had the authority to make changes in the construction of the incubator.

There are in this case two plaintiffs, and even if the plaintiff corporation had consented for the defendant to make these alterations, which we think it did not, it would have been making a concession beyond its authority. The defendant was aware of the contract existing between plaintiff Smith and the plaintiff corporation. This contract precluded the plaintiff corporation from consenting to the alteration of the incubator which would increase its capacity beyond 12,500 eggs.

Regardless of whether the Buckeye Company consented for the defendant to add additional trays to the incubators, there is still a question as to whether or not the mere act of increasing the capacity of the machines constitutes an infringement of the patent. The patent in no way provides for the size of an incubator. The specifications did not designate the capacity or the number of egg trays that may be placed in any unit. A consideration of this subject has convinced that the defendants' authority for making alterations in plaintiffs' patent device must be limited to repairs and such other changes as would be reasonable in adapting the machines to defendants' use. The defendant by altering the interior of the plaintiffs' incubator, by increasing the number of tilting racks, by changing the dimension of the parts, produced a machine which had a greater capacity but embodies every element of the patent. Not only did he make these alterations in machines which he was operating, but he planned to sell this equipment to owners of Buckeye incubators. He did sell one of the fourteen incubators bought in the Fall of 1923, and supplied to the purchaser his additional equipment. This is infringement. See the recent case of The George Close Co. v. Ideal Wrapping Machine Co., et al, in the Circuit Court of Appeals of the 1st Circuit. (Not reported)

THE COUNTERCLAIM

Defendant claims that the plaintiff Buckeye Company is indebted to him for the information furnished and adopted by the Buckeye Company. The evidence disclosed that subsequent to the conference in Springfield, Ohio, in August, 1923, that the plaintiff put on the market a new incubator known in the evidence as Buckeye Incubator No. 34. The evidence shows that this incubator was first

placed on the market about December, 1924, but that it was in course of construction for a year prior thereto. This incubator No. 34, was constructed with the same number of tilting trays and the same number of hatching trays that were contained in machine No. 7, which it displaced. The old incubator stood something more than seven feet from the ground, and to place the egg racks in the incubator, the operator had to reach well above his head. In the new machine the height was about six feet. This decreased height was, according to the testimony, an advantage in that it was easier to place the trays of eggs in the machine and less likelihood of breaking the eggs in the process. It further resulted in a further decided decrease in weight of the incubator and a decrease in material going into the construction of same.

The new incubator also had a single electric connection to the fan instead of the three connections used in the old incubator. These alterations were substantially those which the defendant made known to the plaintiff corporation in 1923. The additional trays which the defendant suggested were not added, but he proposed to add trays by decreasing the distance between the same and this was done in the new machine.

We are disposed to feel that inasmuch as it is undisputed that plaintiff corporation agreed to compensate the defendant if he made suggestions, which they saw fit to adopt, that he should be compensated for his contribution and that the findings should be in defendants' favor on the counterclaim. The plaintiff corporation agreed to compensate him if it used his information; he gave this information in August, 1923, and the next year the plaintiff placed on the market a new incubator, No. 34, and took off of the market their old incubator, No. 7.

This is strongly indicative of the fact that defendant's information was used. Plaintiff corporation contended that this No. 34 machine was in the course of construction in 1923. According to the testimony it was being built at the time of the conference in Springfield, August, 1923. If at that time plaintiff had determined to place the racks closer together, it should have notified the defendant that they had already made this change. The relationship and dealings of the parties at that time demanded that the plaintiff negotiate in the utmost frankness with the defendant. The defendant was not, however, informed that they had already made this alteration in their incubator, nor was he informed that they were going to build a machine with one electrical connection. This further indicates that they acted on defendant's suggestion.

Counsel may tender a decree sustaining the patents, declaring them infringed, and awarding an accounting; and on the counterclaim, a finding in defendant's favor against plaintiff, Buckeye Incubator Co., awarding an accounting, and a finding in favor of plaintiff Smith; and providing for a Special Master to be named to award damages, and to make the accounting; the matter of costs to await the final determination of the cause.

Charles A Davis
U. S. DISTRICT JUDGE.

Filed March 6th 1929

926

MAIL ROOM SEP 1 1929 U.S. PATENT OFFICE

United States District Court

Southern District of Califor...

HONORABLE COMMISSIONER OF PATENTS,
Washington D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. ...), you are advised that there was filed on the 14th day of August, 192 9, in this court an action, suit, or proceeding No. G-16-H, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,
Address of Cleveland, Ohio and Springfield, Ohio, respectively

versus

Name Matie Benedict, Defendant,
Address San Fernando, Calif.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	4/16/18	Buckeye Incubator Company,
2	1,263,138	4/16/18	Buckeye Incubator Company,
3			
4			
5			

In the above-entitled case, on the ... day of ..., 192 , the following patents have been included by ... (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 4th day of September, 192 9, at Los Angeles, California.

R. S. Zimmerman,
Clerk of said Court.

Francis E. Crosby
Francis E. Crosby

1217

MAIL ROOM SEP 1929 U.S. PATENT OFFICE

927

#63

UNITED STATES C[illegible]T COURT OF APPEALS,

United States District Court.

District of: Eighth Circuit.

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 3rd day of September, 1929, in this court an action, suit, or proceeding No. 3701, entitled:

Name Miller Hatcheries Incorporated, and K. I. Miller, Plaintiff,
Address Lancaster, Missouri, Appellants,

versus

Name Buckeye Incubator Company (of Springfield, Ohio), Defendant,
Address and Samuel B. Smith (of Cleveland, Ohio), Appellees,

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16,1918	Samuel B. Smith
2	1,263,138	April 16,1918	Samuel B. Smith
3			
4			
5			

In the above-entitled case, on the ..... day of ....., 19..
the following patents have been included by ..... (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 10th day of September, 1929, at St. Louis, Missouri.

E. E. Wood
Clerk of said Court.

1218

928

#69

MAIL ROOM NOV 19 1929 U.S. PATENT OFFICE

Form 29

District Court of the United States

Southern DISTRICT OF California

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 14th day of August 1929, in this court an action, suit, or proceeding No. G 16 H, entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,
Address of Cleveland, Ohio and Springfield, Ohio, respectively

DEFEND

Name Matie Benedict, Defendant,
Address San Fernando, Calif.

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	4/16/18	Buckeye Incubator Company
2	1,263,138	4/16/18	Buckeye Incubator Company.
3			
4			
5			

In the above-entitled suit, on the _____ day of _____, 192 ; the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

On August 14, 1929 Final Decree filed for perpetual injunction favor of the plaintiff

IN WITNESS WHEREOF I have affixed my hand this 16th day of November, 1929, at Los Angeles, California.

R. S. Zimmerman,
Clerk of said Court.

By Francis E. Cross, Deputy.

Francis E. Cross

1219

MAIL ROOM NOV 27 1929 U.S.

929

United States District Court

#65

Southern District of Calif. ..

HONORABLE COMMISSIONER OF PATENTS,
Washington D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. ....), you are advised that there was filed on the 22nd day of November, 192 9, in this court an action, suit, or proceeding No. Q-69 M., entitled:

Name Samuel B. Smith and The Buckeye Incubator Company, Plaintiff,
Cleveland Ohio Springfield Ohio
Address

DEFENDANT

Name Herbert H. Waxham (doing business as Waxham Hatcheries), Defendant,
Address Van Nuys, Los Angeles County, California

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,860	April 16 1918	The Buckeye Incubator Company.
2.		
3.		
4.		
5.		

In the above-entitled case, on the ..... day of ....., 192 , the following patents have been included by ..... (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

In witness whereof I have affixed my hand this 23rd day of November, 192 9, at Los Angeles, California

R. Sc. Zimmerman
Clerk of said Court.
By Louis J. Somers Dpty

1220

930

MAIL ROOM MAY 13 1930 U.S. PATENT OFFICE

#66

Form 722

District Court of the United States

WESTERN DISTRICT OF NEW YORK

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 12th day of May, 1930, in this court an action, suit, or proceeding No. 253, entitled:

Name Samuel B. Smith, Plaintiff,

Address Cleveland, Ohio

versus

Name James Manufacturing Co., Defendant,

Address Elmira, N. Y.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1 1,262,860	Apr. 16, 1918	Samuel B. Smith, assigned to Buckeye Incubator Co.
2		
3		
4		
5		

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1		
2		
3		
4		
5		

In the above-entitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF I have affixed my hand this 12th day of May, 1930, at Buffalo, N. Y.

Wm. J. Pickering
Clerk of said Court

1221

MAIL ROOM MAY 14 1930 U.S. PATENT OFFICE

931

#67

Form 99

District Court of the United States

WESTERN DISTRICT OF NEW YORK

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 13th day of May, 1930, in this court an action, suit, or proceeding No. 254, entitled:

Name Samuel B. Smith, Plaintiff,

Address Cleveland, Ohio

DEFEND

Name Elmira Hatcheries, Inc., Defendant,

Address Elmira, N. Y.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,282,860	Apr. 16, 1918	Samuel B. Smith, assigned to Buckeye Incubator Co.
2.		
3.		
4.		
5.		

In the above-entitled case, on the ____ day of ____, 192 , the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF I have affixed my hand this 12th day of May, 1930, at Buffalo, N. Y.

G.

Mary S. Dickson
Clerk of said Court.

1222

932

Form 100 UNITED STATES CIRCUIT COURT OF APPEALS,

~~District Courts of the United States~~

CIRCUIT Eighth Circuit.

HONORABLE COMMISSIONER OF PATENTS
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. 392), you are advised that there was filed on the 19th day of May, 1930, in this court a decision in cause No. 8701, entitled:

Name Miller Hatcharies Incorporated, and K. I. Miller, Appellants,

Address Lancaster, Missouri.

VERSUS

Name Buckeye Incubator Company (of Springfield, Ohio), and

Address Samuel B. Smith (of Cleveland, Ohio). Appellees.

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1. 1,262,960	April 16,1918	Samuel B. Smith.
2. 1,262,128	April 16,1918	Samuel B. Smith.
3.		
4.		
5.		

In the above-entitled case, on the _____ day of _____, 19__, the following patents have been included by _____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE
1.		
2.		
3.		
4.		
5.		

In the above-entitled case the following decision has been rendered or decree issued:
On May 19, 1930. Decree: Decree of U. S. District Court for the Eastern District of Missouri affirmed with costs.

In testimony whereof I have affixed my hand this 22nd day of May, 1930, at St. Louis, Missouri.

E. E. Koch,
Clerk of said Court.

By Eugene C. Fischer.
Deputy Clerk.

1223

#69

FILED
FEB 13 1931
JOHN W. MENZIES
CLERK

No. 5564

UNITED STATES CIRCUIT COURT OF APPEALS

SIXTH CIRCUIT

THE BUCKEYE INCUBATOR COMPANY and SAMUEL B. SMITH, *Appellants*,

v.

BERT W. BOLING, *Appellee*.

APPEAL from United States District Court, Southern District of Ohio.

Decided February 13, 1931.

Before DENISON, MOORMAN and HICKENLOOPER, Circuit Judges.

MOORMAN, Circuit Judge: In 1924 the appellants, Buckeye Incubator Company and Samuel B. Smith, sued the appellee, Boling, in the United States District Court for the District of Indiana for infringement of the Smith patent, No. 1,262,860. The defenses set up in the answer were invalidity and non-infringement. Upon the trial the defense of invalidity was abandoned and the cause submitted to and determined by the court upon the issue of infringement alone. Upon that issue there was a decree dismissing the bill. The decree so rendered was never appealed from. Subsequently Boling manufactured and sold incubators to the Nampa Hatcheries at Boise, Idaho, Mortimer P. Lee at St. Michael, Maryland, and Herbert A. Schimelpfenig in Minnesota. The Nampa Hatcheries also built an incubator of its own which was different in some respects from the incubator which it had purchased from Boling. Thereupon the Buckeye Incubator Company and Smith brought suit in the appropriate district courts against each of the three mentioned customers, alleging in each case that the defendant had made and/or used and was still using an incubator which was an infringement of the Smith patent. The present suit was

brought by Boling to enjoin the further prosecution of those suits on the ground that the defendants therein were his customers and were protected from molestation by such suits by the decree of non-infringement in the Indiana case. Upon the hearing in the court below a decree was entered perpetually enjoining the appellants from the further prosecution of the cases.

It is conceded by the appellants that the Indiana decree protects Boling and his customers against further suits for the use of machines substantially identical with the machine that was held not to infringe by the Indiana court, and further, that the injunction in the present case was rightly issued if the incubators sold by Boling and involved in the three district court cases did not embody substantial changes in the Indiana incubator in the direction of infringement. *Kessler* v. *Eldred*, 206 U. S. 285; *Hart Steel Co.* v. *Railroad Supply Co.*, 244 U. S. 294.

The Smith patent has been the subject of much litigation.[1] We do not regard a discussion of the holdings in the several cases dealing with it essential to a decision of the question here presented. In the brief of counsel for appellants there are set out eight structural differences between the Indiana machine and the later machines of Boling which are said to effect a substantial change in the direction of infringement. We put aside all these changes as unsubstantial, except the space slats in the central corridor of the later constructions. The Indiana device had space slats in the central corridor for less than ¼ of the height of the egg trays. These were apparently designed to protect the eggs from the direct radiation of the pipes. The Namba incubator has slats the full distance of the trays, thus forming, as in Smith, a closed corridor in the center of the incubator box. The Schimelpfenig and Lee incubators seem to have no such slats between the two trays above the fan panel nor any between the bottom tray and the one next to it.

The closed corridor in Smith, operating with other features of the device, was thought by this court in the Petersime case to have the effect of producing a defined current of air. Whether such a current was formed in the Indiana structure or there was merely an agitation of the air are questions that were not necessarily determinded in the Indiana case, for there was the further dif-

[1] *Buckeye Incubator Co.* v. *Wolf*, 291 Fed. 253 (D.C.); *Wolf* v. *Buckeye Incubator Co.*, 296 Fed. (6) 680; *Buckeye Incubator Co.* v. *Cooley* (3 C. C. A.), 17 Fed. (2d) 453; *Buckeye Incubator Co.* v. *Blum*, 17 Fed. (2d) 456 (D.C.); *Buckeye Incubator Co.* v. *Petersime* (6 C. C. A.), 19 Fed. (2d) 721; *Buckeye Incubator Co.* v. *Hillpot* (3 C. C. A.), 24 Fed. (2d) 341; and *Buckeye Incubator Co.* v. *Blum* (6 C. C. A.), 27 Fed. (2d) 333.

ference between the two methods there involved, that in Smith the warmed current of fresh air first contacted with the eggs in the more advanced stage of incubation, whereas in the Indiana structure, if there was such a current, it contacted first with the eggs less advanced in incubation.

This latter difference, as well as the difference in the direction of the current, if there was a current in the Indiana device, are quite obviously embodied in the later Boling devices. There has been, however, such a change in the corridor of these later devices as might well be thought to assist in forming a defined current or cycle that did not exist under the Indiana method. Such change is necessarily in the direction of infringement upon one possible basis of the decision by the Indiana court. Whether infringement is avoided in the present devices by the lack of a *sufficiently well-defined* current or cycle of air, or by the direction in which the air is propelled, or by the fact that the heated air first contacts the eggs in the less advanced stages of incubation, we expressly refrain from deciding. Those are questions to be determined by the courts in which the cases are pending. It is sufficient for the purposes of this case that there has been a change in the direction of infringement upon a possible basis of the Indiana decision. This avoids the doctrine of *Kessler* v. *Eldred, supra*.

The decree is reversed and the cause remanded for a dismissal of the bill.

936

MAIL ROOM JUL 30 1931 U.S. PATENT OFFICE

United States District Court

District of Minnesota, Second Division

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

SIR:

In compliance with the Act of February 18, 1922 (42 Stat. L. ____), you are advised that there was filed on the 27th day of July, 1931, in this court an action, suit, or proceeding No. 295 Equity, entitled:

Name Samuel R. Smith, Plaintiff,

Address Cleveland, Ohio

DEFENDANT

Name E. H. Snow and E. H. Snow d. b. a. Snow's Hatcheries and Snow's Incubator Company, Defendant,

Address Sleepy Eye, Minnesota

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,262,860	April 16, 1918	The Buckeye Incubator Company
2			
3			
4			
5			

In the above-entitled case, on the ____ day of ____, 193 , the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In testimony thereof I have affixed my hand this 27th day of July, 1931, at Mankato, Minn.

JOEL N. DICKEY
Clerk of said Court.
BY Belle Aldrich, Deputy Clerk.

1227

GROUP A.

PRIOR PATENTS CITED ON THE FILE WRAPPER RECORD OF THE SMITH PATENT IN SUIT, 1,262,860, OF APRIL 16,1918.

Patent No.	Date of Patent	Patentee
U.S.No. 120,353	Oct. 24, 1871	H. Endemann
U.S.No. 152,644	June 30, 1874.	E. A. Jones and C.W.Jones
U.S.No. 272,744	Feb. 20, 1883	A. H. Morgan
U.S.No. 286,726	Oct. 16, 1883	C. F. Winkler
U.S.No. 298,678	Apr. 29, 1884	G. Conant,
U.S.No. 330,457	Nov. 17,1885	C. Massini, et al
U.S.No. 344,474	June 29, 1886	J. W. Campbell
U.S.No. 359,676	May 5, 1886	T.R.C. Christianson
U.S.No. 591,870	Oct. 19, 1897	F. H. Morgan
U.S.No. 691,837	Jan. 28, 1902	V. S. Bell
U.S.No. 709,860	Sept.23, 1902	C. F. Scott,
U.S.No. 745,458	Dec. 1, 1903	F. C. Perkins
U.S.No.828,181	Aug. 7, 1906	G. H. Boyd
U.S.No. 891,019	June 16, 1908	L. Verna
U.S.No. 916,454	Mar. 30, 1909	V. C. Koons,
U.S.No. 949,653	Feb. 15, 1910	J. H. Klinke
U.S.No.1,100,146	June 16,1914	J. C. Olson
U.S.No.1,137,752	May 4, 1915	G. E. Goldstein
U.S.No.1,160,793	Nov. 16, 1915	S. S. Van Keuren
German Pat.No.155,917	Nov. 7, 1901	E. Stulik

GROUP B.

PRIOR PATENTS, NONE OF WHICH WERE CITED ON THE FILE WRAPPER RECORD OF THE SMITH PATENT IN SUIT, 1,262,860, OF APRIL 16,1918

Patent No.	Date of Patent	Patentee
U.S.No. 3,019	Mar. 30, 1843	M. K. Guerin
U.S.No. 193,616	July 31, 1877	E. S. Renwick
U.S.No. 217,148.	July 1, 1879	E. S. Renwick
U.S.No. 224,224	Feb. 3, 1880	E. S. Renwick
U.S.No. 271,184	Jan. 23, 1883	H. Altenbrand
U.S.No. 280,490	July 3, 1883	O. Knapp
U.S.No. 335,961	Feb. 9, 1886	E.S. Renwick
U.S.No. 340,483	June 23, 1886	Lewis Cutting
U.S.No. 436,321	Apr. 22, 1890	J. K. Proctor & J. H. Knowles
U.S.No. 456,407	July 21, 1891	F.Frey & A.M. Wayne
U.S.No. 535,175	Mar. 5, 1895	C.W. Schmartz
U.S.No. 553,723	Jan. 28, 1896	J. K. Proctor
U.S.No. 566,068	July 6, 1897	W. P. Jones
U.S.No. 589,145	Feb. 15,1898	George Eutz
U.S.No. 614,493	Nov. 22, 1898	C.S. Newson
U.S.No. 789,719	May 16, 1905	J. M. Day
U.S.No. 798,697	Sept. 5, 1905	F.C. Perkins
U.S.No. 832,151	Oct. 2, 1906	C.S. Newson
U.S.No. 992,622	May 16,1911	J. Wiebe
U.S.No.1,010,809	Dec. 5, 1911	J. Schmidt & H.Schutterle
U.S.No.1,034,205	July 30, 1912	J.C. Cogburn
U.S.No.1,075,747	Oct. 14, 1913	C.W. Kimmer
U.S.No.1,086,903	Feb. 10, 1914	A.Di Domenico & A. Amicarelli
U.S.No.1,158,447	Nov. 2, 1915	C. J. Coleman
U.S.No.1,195,705	Aug. 22, 1916	P. S. Martin
U.S.No. 360,223	Mar. 29, 1887	E. H. Johnson
U.S.No. 843,209	Feb. 12, 1907	F.H.Peters & H.H.Hungerford
U.S.No. 917,483	Apr. 6, 1909	C.C. Peck
U.S.No. 948,911	Jan. 18, 1910	C.C. Andrews

UNITED STATES DISTRICT COURT

DISTRICT OF MINNESOTA

FOURTH DIVISION (Transferred from Second Division)

Honorable Commissioner of Patents,
Washington, D.C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat.L.__), you are advised that there was filed on the 4th day of December, 1924, in this court an action, suit, or proceeding No. 295 Eq entitled:

Name Samuel B.Smith, Plaintiff

Address Cleveland, Ohio

Versus

Name E.H.Snow and E.W.Snow, d.b.a. Snow's Hatcheries and Snow's Incubator Company, Defendant

Address Sleepy Eye, Minn.

brought upon the following patents:

Patent No.	Date of Patent	Patentee
1 282 580	April 15 - 1918	The Buckeye Incubator Company (Samuel B.Smith, Assignee)

(Fourth Division No 2119 Equity)

In the above-entitled case, on the 2nd day of November, 1925 the following patents have been included by Answer (insert amendment, answer, cross bill, or other pleading):

Patent No.	Date of Patent	Patentee

In the abovecentitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF I have affixed my hand this 2nd day of November, 1925, at Minneapolis, in said District

Joel M.Dickey
Clerk of said Court

By [signature] Deputy Clerk.

1229

RECEIVED DEC 24 1931 U.S. PATENT OFFICE

United States District Court

#72.

Southern District of Ohio

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat. L. ____), you are advised that there was filed on the 14th day of December, 1931, in this court an action, suit, or proceeding No. 920, entitled:

Name Samuel B. Smith, Plaintiff,

Address Cleveland, Ohio

versus

Name Edmund Kathe, Defendant,

Address Chillicothe, Ohio,

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1,262,860	Apl. 16, 1918	The Buckeye Incubator Company.

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

PATENT NO.	DATE OF PATENT	PATENTEE

In the above-entitled case the following decision has been rendered or decree issued: Dec. 14, 1931, a decree of infringement and awarding injunction.

In witness whereof I have affixed my hand this 21st day of December, 1931, at Columbus, Ohio.

A. F. Rankel
Clerk of said Court

1230

940

NOTICE ON FILING OF PATENT CASE

#73

District Court of the United States

NORTHERN DISTRICT OF OHIO

EASTERN DIVISION

MAIL ROOM
OCT 20 1921
U.S. PATENT OFFICE

Honorable Commissioner of Patents, Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (41 Stat. L.), you are advised that there was filed on the 9th day of October, 192 , in this court an action, suit, or proceeding, No. 4023, entitled—

Name Samuel B. Smith, Plaintiff

Address 48 Collyer Road, Cleveland, Ohio

	(an Ohio Corporation)	(a Delaware Corporation)	(An Ohio Corporation)
Name	The Buckeye Incubator Co.,	The Buckeye Incubator Co.,	The Buckeye Incubator Mfg. Co.
Address	Cleveland, Ohio.	Beechwood, Ohio.	Cleveland, Ohio

Defendant

brought upon the following patents:

PATENT NO.	DATE OF PATENT	PATENTEE
1,268,860	April 18, 1918	Samuel B. Smith
1,263,138	April 8, 1918	Samuel B. Smith

In the above-entitled case, on the _____ day of _____, 192 , the following patents have been included by _____ _____ (Amended complaint, answer, cross bill, or other pleading)

PATENT NO.	DATE OF PATENT	PATENTEE

In the above-entitled case the following decision has been rendered or decree issued:

IN WITNESS WHEREOF, I have affixed my hand this 9th day of October, 1921, at Cleveland, Ohio.

F. J. HECKLER, Clerk.

By O. M. Adams, Deputy Clerk

1231

MAIL ROOM
JUN 13 1932
U.S. PATENT OFFICE

UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA
Fourth Division.

#79

Honorable Commissioner of Patents,
Washington, D.C.

Sir:

In compliance with the Act of February 18, 1922 (42 Stat.L.388) you are advised that there was filed on the 16th day of July, 1932 in this Court an action, suit, or proceeding in Equity entitled:

Samuel B. Smith and
Name The Buckeye Incubator Company, Plaintiff,
Address Cleveland and Springfield, Ohio, respectively

versus

Name Herbert A. Schmalofenig, Defendant
Address Ghaska, Minnesota

brought upon the following patents:

Patent No.	Date of Patent	Patentee
1 262 860	April 16, 1918	Buckeye Incubator Co. (Samuel B. Smith, Assignee)

In the above-entitled case, on the 27th day of August 1932 the following patents have been included by Answer (insert amendment, answer, cross bill, or other pleading):

Patent No.	Date of Patent	Patentee

(See list attached to last report)

In the above-entitled case the following decision has been rendered or decree issued:

Consent decree for plaintiffs entered June 4, 1932, holding patent good and valid as to claims and providing for permanent injunction without accounting and without costs.

In Witness Whereof I have affixed my hand this 10th day of June 1932 at Minneapolis, in said District.

Joel B. Bierly, Clerk of said Court,
By [signature], Deputy Clerk.

1232

MAIL ROOM
JUL 11 1932
U.S. PATENT OFFICE

United States District Court

Western *District of* Wisconsin

HONORABLE COMMISSIONER OF PATENTS,
Washington, D. C.

Sir:

In compliance with the Act of February 18, 1922 (41 Stat. L. ____), you are advised that there was filed on the 9th day of July, 1932, in this court an action, suit, or proceeding No. 2109, Equity, entitled:

Name Samuel B. Smith, Plaintiff,

Address Cleveland, Ohio.

VERSUS

Name Raymond Clark, Harvey Clark and Mabel Clark, Administratrix of the Estate of James Herman Clark, deceased, Defendant,

Address Meridean, Wisconsin

brought upon the following patents:

	PATENT NO.	DATE OF PATENT	PATENTEE
1	1,202,860	Oct 24, 1916	Samuel B. Smith
2			
3			
4			
5			

In the above-entitled case, on the ____ day of ____, 19__, the following patents have been included by ____ (insert amendment, answer, cross bill, or other pleading):

	PATENT NO.	DATE OF PATENT	PATENTEE
1			
2			
3			
4			
5			

In the above-entitled case the following decision has been rendered or decree issued:

In testimony thereof I have affixed my hand this 9th day of July, 1932, 19__, at Madison, Wisconsin.

E. C. Hale, Clerk.

By Dana N. Dranch
Clerk of said Court

1233

S. B. SMITH.

INCUBATOR.

APPLICATION FILED OCT. 26, 1916.

1,262,660. Patented Apr. 16, 1

2 SHEETS—SHEET 1.

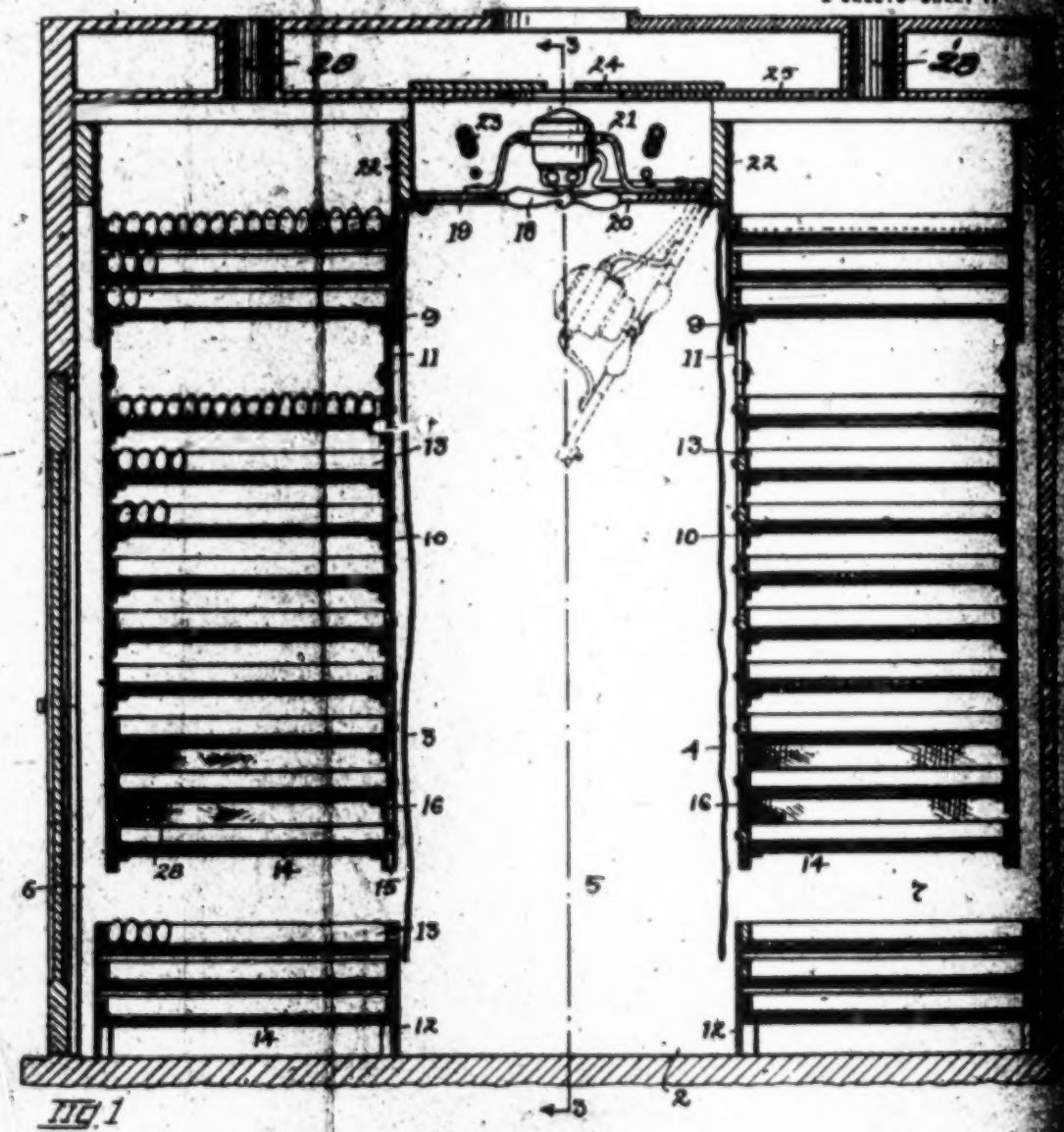


Fig. 1

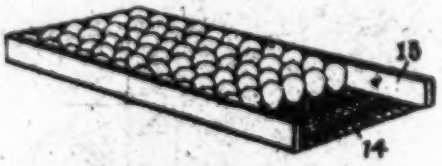


Fig. 2

INVENTOR.
S. B. SMITH.
BY Staley & Bowman
ATTORNEYS

944

S. B. SMITH.

INCUBATOR.

APPLICATION FILED OCT. 26, 1916.

1,262,860.

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2 SHEETS—SHEET 2.

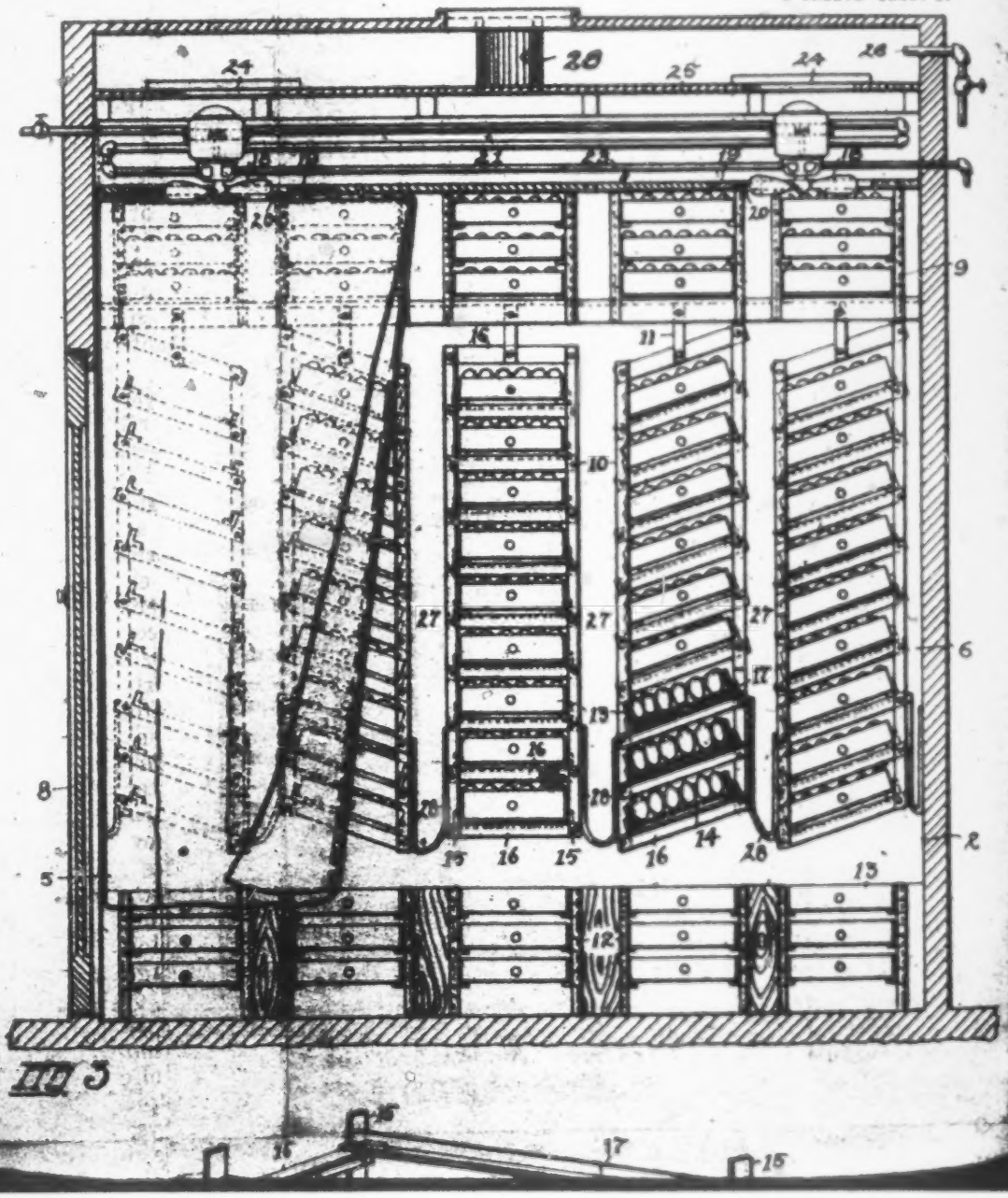

FIG 3

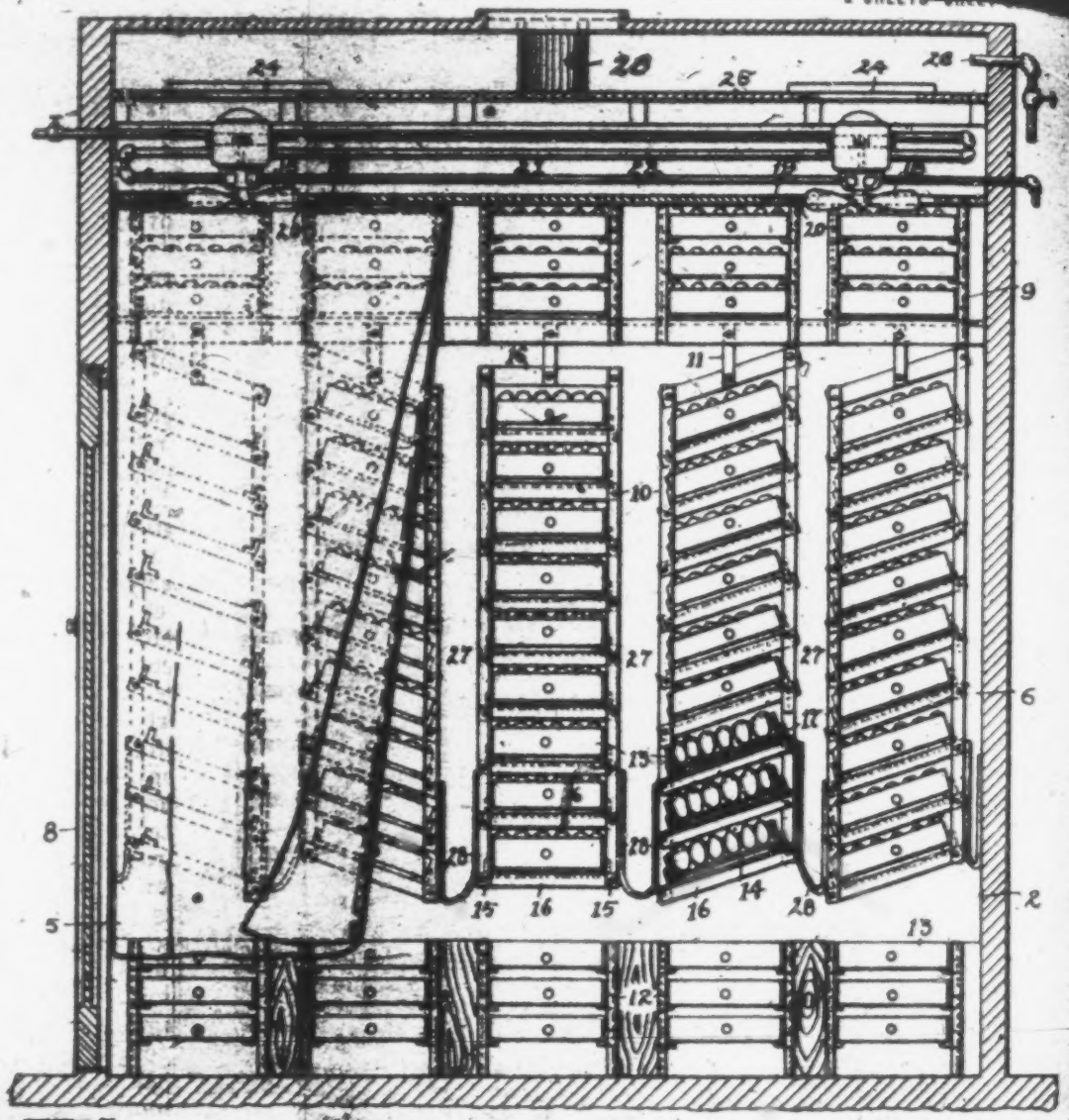

FIG 3.

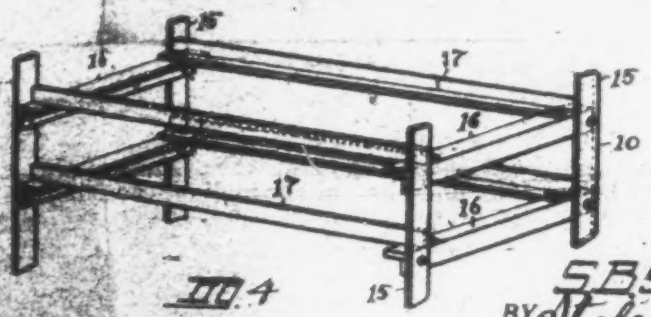

FIG 4.

INVENTOR.
S. B. SMITH.
BY Staley & Bowman
ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL B. SMITH, OF CLEVELAND, OHIO, ASSIGNOR TO THE BUCKEYE INCUBATOR CO., OF SPRINGFIELD, OHIO, A CORPORATION OF OHIO.

INCUBATOR.

1,262,860. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed October 26, 1916. Serial No. 127,218.

To all whom it may concern:

Be it known that I, SAMUEL B. SMITH, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Incubators, of which the following is a specification.

The improved apparatus and method, is particularly designed for extensive operations wherein a chamber of large dimensions is adapted to contain thousands of eggs in separate trays arranged in tiers and the method of heating is such that the heated air is adapted to the eggs in various stages of incubation. There is a forced circulation of hot air through the chamber which is adapted preferably to maintain all eggs at temperatures between 100° and 105° Fahrenheit approximately and this improved system contemplates that fresh eggs will be placed in a horizontal plane, preferably by means of trays supported in horizontal planes, and after the eggs have been subject to the circulation of hot air for a predetermined time (the air circulating largely around the eggs) they will be placed in a tilted or inclined position in a different location but still subject to the same column of air and at this period of incubation they will be tilted in different planes at regular intervals during the time they remain in this latter position, and after they have remained for a predetermined time they will be again moved to a different position with reference to the [illegible] circulation of hot air and so placed [illegible] that the air will tend to keep the [illegible] 105° temperature, and in this last [illegible] position the air will be forced to pass [illegible] the different eggs and will in effect [illegible] a cooling medium for the eggs. The [illegible]re of circulating air should be such [illegible] in the early stage of

In the accompanying drawings:

Figure 1 is a cross section of my improved incubator.

Fig. 2 is a perspective view of one of the egg trays with one end removed to more clearly disclose the open mesh bottom.

Fig. 3 is a vertical section of the incubator on line 3—3, Fig. 1.

Fig. 4 is a perspective view of a portion of one of the tilting racks for the trays.

The invention comprises a walled chamber 2 corresponding in size to that of an ordinary room, say approximately nine feet high, eight to ten feet wide, and of any desired length, and this chamber is subdivided longitudinally by two parallel rows of curtains 3 and 4 to provide a central compartment or corridor 5 and side compartments 6 and 7. Entrance to the corridor is gained by a door 8, and the compartments behind the curtains contain elevated stationary racks 9 which are within convenient reach of the attendant for introducing the fresh supply and from which elevated position the trays may be shifted at the proper time to a tier of tilting racks 10 on a lower plane and suspended therefrom by links 11. A series of stationary racks 12 are also arranged beneath the tilting racks 10, and all of said racks are of open construction and of the same size to permit interchange of the shallow trays 13 for the eggs to be hatched. These trays are provided with open mesh bottoms 14 upon which the smaller ends of the eggs rest in close and solid formation, and each tray of eggs occupies the upper [illegible] for the first three days, and is then transferred to a place in the upper end of the tilting rack 10. During the next fifteen days the trays in the tilting rack are shifted from higher to lower planes therein and tilted at frequent intervals to stand in oppo-

INCUBATOR.

1,260. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed October 26, 1916. Serial No. 127,218.

...ll whom it may concern:

...e it known that I, SAMUEL B. SMITH, a ...en of the United States, residing at ...eland, in the county of Cuyahoga and ...te of Ohio, have invented certain new ...d useful Improvements in Incubators, of ...ich the following is a specification.

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In the accompanying drawings:

Figure 1 is a cross section of my improved incubator.

Fig. 2 is a perspective view of one of the egg trays with one end removed to more clearly disclose the open mesh bottom.

Fig. 3 is a vertical section of the incubator on line 3—3, Fig. 1.

Fig. 4 is a perspective view of a portion of one of the tilting racks for the trays.

The invention comprises a walled chamber 2 corresponding in size to that of an ordinary room, say approximately nine feet high, eight to ten feet wide, and of any desired length, and this chamber is subdivided longitudinally by two parallel rows of curtains 3 and 4 to provide a central compartment or corridor 5 and side compartments 6 and 7. Entrance to the corridor is gained by a door 8, and the compartments behind the curtains contain elevated stationary racks 9 which are within convenient reach of the attendant for introducing the fresh supply and from which elevated position the trays may be shifted at the proper time to a tier of tilting racks 10 on a lower plane and suspended therefrom by links 11. A series of stationary racks 12 are also arranged beneath the tilting racks 10, and all of said racks are of open construction and of the same size to permit interchange of the shallow trays 13 for the eggs to be hatched. These trays are provided with open mesh bottoms 14 upon which the smaller ends of the eggs rest in close and solid formation, and each tray of eggs occupies the upper rack 9 for the first three days, and is then transferred to a place in the upper end of the tilting rack 10. During the next fifteen days the trays in the tilting rack are shifted from higher to lower planes therein and tilted at frequent intervals to stand in oppositely-inclined positions. The tilting of the eggs is preferably arranged to put the eggs substantially on their sides. When the eggs in the lower-most trays in the tilting racks 10 are about ready to hatch each tray is transferred to the stationary rack 12 where the chicks may be removed as occasion requires.

Each tilting rack 10 comprises perpendicular corner bars 15 pivotally united by a series of cross bars 16 carrying connecting angle irons 17 extending from front to rear

at each side and upon which the trays are adapted to be slidably supported. The links 11 are pivotally connected at the center of the uppermost cross bars 10 of each tilting rack, thus permitting an entire series of trays to be placed in an inclined position by merely raising or lowering one side of the rack by hand engagement. The weight and friction and balance of the parts causes the trays to remain in any shifted position, whether horizontal or inclined. The fans or series of fans 18 mounted upon the hinged trap doors 19 forming the ceiling of the central corridor 5 constitute the means for forcing the hot air through the chamber and there are circular openings 20 provided in said doors within which the fans are arranged properly. The longitudinal space 21 above the fans has open communication above the side walls 22 with the upper ends of the rack compartments behind the curtains 3 and 4 and these curtains extend a sufficient distance, as indicated in Fig. 1, to cause the heated air distributed by the fans to pass downwardly through the central corridor to a point near the bottom of the chamber where it can pass into the space occupied by the trays. As explained later the trays near the bottom are preferably arranged so that the air is forced to pass between the eggs in each tray thereby cooling or holding the temperature of those eggs down. Thence the air passes into spaces above the lower series of trays until it reaches the distributing space 21 above the fan. Coils of heating pipe 23 are arranged in the space 21 to heat the air and more or less fresh air may be taken in through the valved opening 24 above the space 21 and this fresh supply of air may be charged with steam to a greater or less degree by means of a valved [illegible] jet or pipe 26 see Fig. 3. The [illegible] the release of foul air [illegible] restricted capacity so as to prevent [illegible] of moisture. It is [illegible] openings and so [illegible] of the vital- [illegible] current [illegible] the chamber [illegible] trap doors, [illegible] easily reached [illegible] 3 is shown [illegible] at the right [illegible] the rack

lower trays and as the danger is that the temperature will rise in these eggs to a point injurious to incubation the improved method disclosed herein permits the circulating air to act as a medium to prevent the over heating at this stage of incubation and this is accomplished by promoting an induced draft within the lower trays. It is obvious that the fans can be so arranged and can be operated at such speed as to cause the hot air to circulate fast enough to keep the temperature throughout the chamber between the limits of 100° and 105°.

It, therefore, appears that the improved apparatus and method contemplates the application of hot air circulating in a column with such speed as to keep the temperature substantially uniform and so arranging the eggs that the fresh eggs are placed at one point in the column of air and held in a horizontal plane until they reach a predetermined stage of incubation and then put at a different point in the same column of air and kept in planes inclined to the horizontal and thereafter placed at such a point in the column of air that the forced draft of air acts to hold the eggs at a uniform temperature and to prevent them from becoming overheated and thereafter placing the eggs into final position for the hatching operation.

Any suitable thermostatic means may be employed for regulating the temperature, such for instance as a thermostat commonly employed in incubators of a well-known construction and illustrated in Letters-Patent No. 1,111,138, dated September 22nd, 1914, which thermostat may be suitably connected to the valve controlling the steam or hot water, as the case may be, which passes through the pipes 23.

Having thus described my invention, I claim:—

1. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and supplying a current of heated air, said current being created by means other than variations of temperature and of sufficient velocity to circulate, diffuse and maintain air throughout the chamber at substantially the same temperature, whereby the air may be vitalized, the moisture conserved

friction and balance of the parts cause the trays to remain in any shifted position, whether horizontal or inclined. The fans or series of fans 18 mounted upon the hinged trap doors 19 forming the ceiling of the central corridor 5 constitute the means for forcing the hot air through the chamber and there are circular openings 20 provided in said doors within which the fans are arranged properly. The longitudinal space 21 above the fans has open communication above the side walls 22 with the upper ends of the rack compartments behind the curtains 3 and 4 and these curtains extend a sufficient distance, as indicated in Fig. 1, to cause the heated air distributed by the fans to pass downwardly through the central corridor to a point near the bottom of the chamber where it can pass into the space occupied by the trays. As explained later the trays near the bottom are preferably arranged so that the air is forced to pass between the eggs in each tray thereby cooling or holding the temperature of those eggs down. Thence the air passes into spaces above the lower series of trays until it reaches the distributing space 21 above the fan. Coils of heating pipe 23 are arranged in the space 21 to heat the air and more or less fresh air may be taken in through the valved opening 24 above the space 21 and this fresh supply of air may be charged with steam to a greater or less degree by means of a valve controlled jet or pipe 26 see Fig. 3. The outlets 25 for the release of foul air are made of such restricted capacity as to prevent the undue escape of moisture. It is possible to limit the openings and so conserve the moisture by reason of the vitalizing effect of the power driven current upon the body of the air within the chamber. By lowering the hinged trap doors, the motor and fan are also easily reached for inspection, etc.

In Fig. 3 only a single-curtain 3 is shown in place, the curtain or curtains at the right being entirely removed to disclose the racks and trays in full lines, and it will be also noted that the vertical spaces 27 between the adjacent tilting racks 10 are closed at their lower ends by flexible strips of fabric which are attached to and extend upward at each side of each rack so as to compel the air to circulate through the mesh bottom and around and about each egg as heretofore referred to, and as the eggs further advanced in incubation are contained in these

obvious that the fans can be so arranged that they can be operated at such speed as to cause the hot air to circulate fast enough to keep the temperature throughout the chamber between the limits of 100° and 105°.

It, therefore, appears that the improved apparatus and method contemplates the application of hot air circulating in a column with such speed as to keep the temperature substantially uniform and so arranging the eggs that the fresh eggs are placed at one point in the column of air and held in a horizontal plane until they reach a predetermined stage of incubation and then put at a different point in the same column of air and kept in planes inclined to the horizontal and thereafter placed at such a point in the column of air that the forced draft of air acts to hold the eggs at a uniform temperature and to prevent them from becoming overheated and thereafter placing the eggs into final position for the hatching operation.

Any suitable thermostatic means may be employed for regulating the temperature, such for instance as a thermostat commonly employed in incubators of a well-known construction and illustrated in Letters-Patent No. 1,111,138, dated September 22nd, 1914, which thermostat may be suitably connected to the valve controlling the steam or hot water, as the case may be, which passes through the pipes 23.

Having thus described my invention, I claim:—

1. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a current of heated air, said current being created by means other than variations of temperature and of sufficient velocity to circulate, diffuse and maintain the air throughout the chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

2. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a power driven current of heated

in an adjacent chamber through openings into the egg chamber, said current being of sufficient velocity to circulate, diffuse and maintain the air throughout the egg chamber at substantially the same temperature, whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in a less advanced stage for the purpose specified.

3. The method of hatching a plurality of eggs by arranging them at different levels in a closed chamber having restricted openings of sufficient capacity for the escape of foul air without undue loss of moisture and applying a vertically directed current of heated air in an adjacent chamber to circulate in said egg chamber through upper and lower openings between said chambers, said current being created by mechanically moving means of such velocity as to diffuse and maintain the air throughout the egg chamber at substantially the same temperature whereby the air will be vitalized, the moisture conserved and the units of heat will be carried from the eggs in the more advanced stage of incubation to those in the less advanced stage for the purpose specified.

4. In an incubator, a closed chamber having a central corridor provided with an air-distributing space in its upper portion and a power-driven fan in said space, curtains at each side of said corridor, arranged to permit the air to circulate from the bottom of the chamber into the part of the chamber behind the curtains, passageways connecting the air distributing space with the corridor and the parts of said chamber behind the curtains, separate stationary and tilting racks behind said curtains, egg-trays having open-mesh bottoms removably mounted upon said racks, and means to heat the air circulated through said chamber.

5. In an incubator, a closed chamber with a vertically disposed partition to provide a corridor having upper and lower passage ways to said chamber, egg trays arranged at different levels in said chamber, a power driven fan creating a current in said corridor to circulate through said passage ways and egg trays, said chamber having restricted openings of sufficient capacity for the discharge of foul air without undue loss of moisture and means to heat the air circulated through said chamber.

In testimony whereof, I have hereunto set my hand this 20th day of October, 1916.

SAMUEL B. SMITH.

Witnesses:
HANNAH D. PLAIN,
IDA M. SMITH.

1916

CONTENTS: 201

1. Application ... 2 papers O K
2. Rejection ... NOV 1 1916
3. Amendment A ... MAR 6 1917
4. Rejection ... MAR 24 1917
5. Amendmet B ... APR 7 1917
6. Rejection ... APR 12 1917
7. Amendment C ... APR 23 1917
8. Rejection ... MAY 3 1917
9. ... JUN 2 1917
10. Amendment D ... JUN 28 1917
11. Rejection ... JUN 30 1917
12. Appeal & Exhibits
13. Notice of Suit ... Dec 7-1926
14. Notice of Suit ... 4/17/22
15. Notice of Suit, July 16-23
16. Notice of Suit, Feb 27, 1923
17. Notice of Suit ... Nov. 10-1923
17. (a) ... Oct. 17-1924
18. Notice of Suit, May 13-1924
19. (a) ... Sept. 19-1924
20. Notice of Suit, July 17-1924
21. (a) ... Sept. 19-1924
22. Notice of Suit, July 14-1924
23. Notice of Suit ... Aug. 21-1924
24. Notice of Suit ... Sept. 5-1924
24. (a) ... Aug. 21-1924
25. Notice of Suit ... Sept. 23-1924
26. Notice of Suit ... Oct. 4-1924
27. Notice of Suit ... Oct. 11-1924
28. Notice of Suit ... Oct. 11-1924
29. Notice of Suit ... Dec. 19-1924
30. Notice of Suit ... Feb. 13-1925
31. Notice of Suit ... May 26-1925
32. Notice of Suit ... Aug. 15-1925
33. Notice of Suit ... Sept. 9-1925
34. Notice of Suit ... May 26-1926
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37. Ruling of C.C. of Appeals ... July 19-1926
38. Notice of Suit ... Dec. 29-1926
39. Notice of Suit ... Feb. 15-1927
40. Notice of Suit ... June 10-1927
41. Notice of Suit ... June 25-1927
42. Notice of Suit ... June 25-1927
43. Notice of Suit ... July 5-1927
44. Notice of Suit ... July 25-1927
45. Notice of Suit ... Aug. 1-1927
46. Notice of Suit ... Aug. 5-1927
47. Notice of Suit ... Nov. 28-1927
48. Notice of C.C.A. ... March 31-1928
49. Notice of Suit ... March 31-1928
50. Not of Suit ... April 6-1928
April 24-1928
April 23-1928

[See other side for Continuations]

No. 656,780. Patented Aug. 28, 1900.

G. T. WOODS.

INCUBATOR.

(Application filed May 26, 1900.)

(No Model.)

Fig. 1.

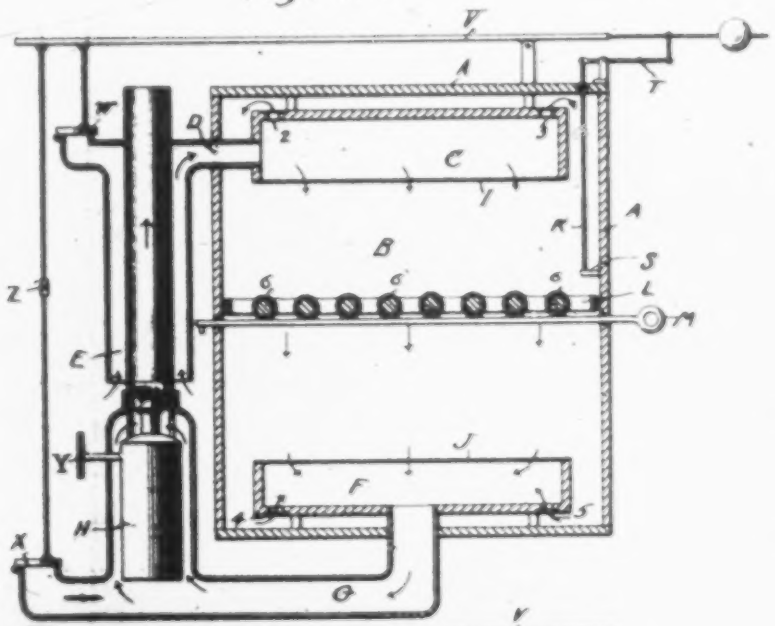


Fig. 2.

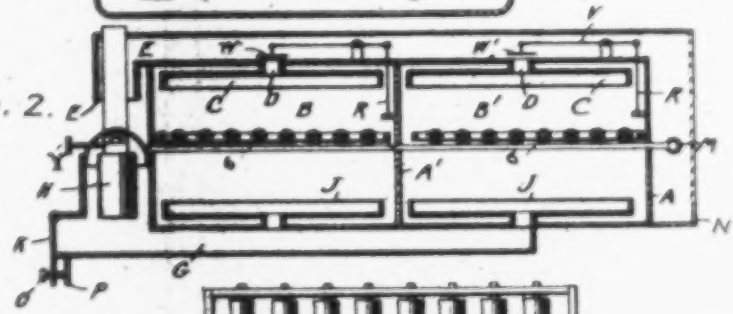


Fig. 3.

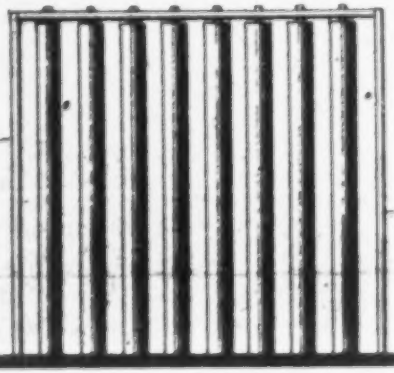


Fig. 1.

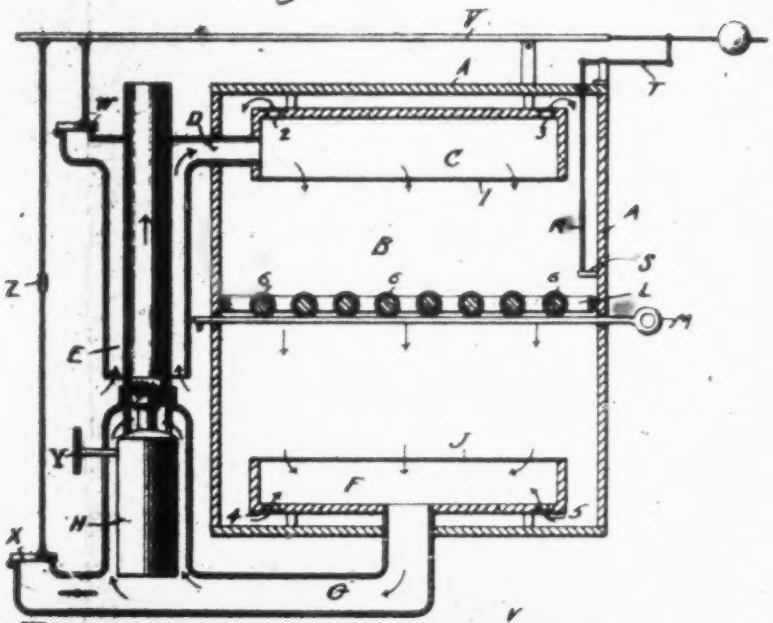


Fig. 2.

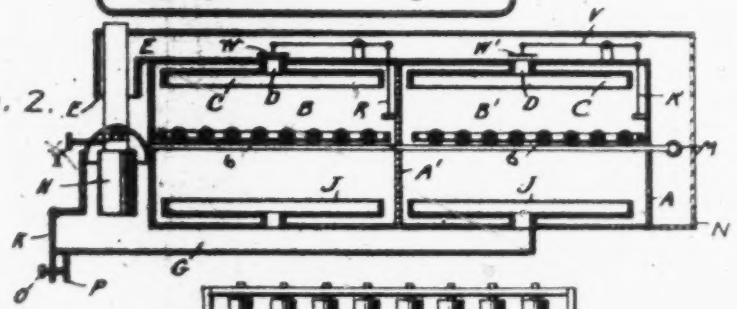
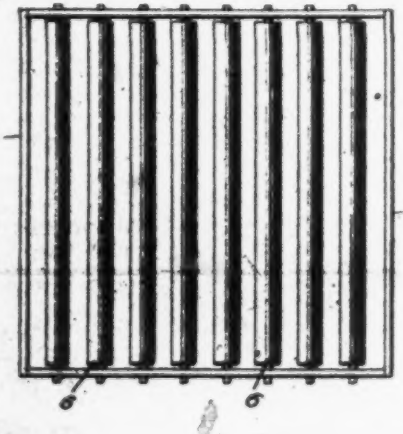


Fig. 3.



Witnesses:
Frank O. Adams.
C. P. Hayes.

Inventor:
F. T. Woods.

UNITED STATES PATENT OFFICE.

GRANVILLE T. WOODS, OF NEW YORK, N. Y.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 656,760, dated August 28, 1900.

Application filed May 25, 1900. Serial No. 18,013. (No model.)

To all whom it may concern:

Be it known that I, GRANVILLE T. WOODS, a citizen of the United States, and a resident of New York, N. Y., have invented certain new and useful Improvements in Incubators, of which the following is a specification.

My invention relates to improvements in incubators or egg-hatching machines, and has for one of its objects to ventilate the hatching-chamber in such a manner that the humidity of the air within the hatching-chamber will at all times be about the same as that of the outer free atmosphere. Meanwhile the said air will be moving slowly, positively, and bodily through the said hatching-chamber from the point of entrance into said chamber to the place of exit therefrom.

Another object of my present invention is to maintain a practically-even temperature throughout the entire interior of the hatching-chamber along the side walls, as well as in the center thereof.

In a properly-devised incubator the body of heated air should have a slow but positive downward movement toward the eggs, and the temperature of the heated air should be automatically regulated, and the entire space within the walls of the hatching-chamber should be of the same temperature. In my present invention I prefer to construct the entire walls of the hatching-chamber of a material and in a manner which is impermeable to air or gas. In addition to the hatching-chamber I preferably employ two other or auxiliary chambers, which may be arranged (if so preferred) within the said hatching-chamber. One of said auxiliary chambers I shall term a "distributing" inlet or chamber, and it is arranged near the under side of the outer wall of said hatching-chamber and has an opening leading to the outer free atmosphere. The other auxiliary chamber I shall

Figure 1 represents a vertical section through the aforesaid three chambers of the incubator and the ducts connected therewith. Fig. 2 illustrates a plan whereby several hatching-chambers may be so connected that one source of heat will supply all of said chambers. Fig. 3 exhibits a plan view of the removable egg-tray shown in section at Figs. 1 and 2.

In Fig. 1 the walls A A, &c., inclose the hatching-chamber.

C is the distributing-chamber, which is suspended from or held near the upper wall of said hatching-chamber. The said distributing-chamber communicates through pipe or duct D (and heating-duct E) with the free outer air.

F is the exhaust-chamber, located slightly above the bottom wall or floor of the hatching-chamber B B. Exhaust-chamber F communicates through duct G with the flame of heater H.

The interior of hatching-chamber C communicates with the interior of chamber B through the large porous diaphragm I and small porous diaphragms 2 3. The interior of chamber B communicates with the interior of chamber F through the large porous diaphragm J and small porous diaphragms 4 5. The said diaphragms may be composed of cotton cloth or any other suitable porous material. The diaphragms herein shown and specified are porous—that is to say, they are full of minute apertures, through which the air passes in diffused minute quantities, thereby compelling the air-movement within said chamber to be so slow that the outgoing air and gases can take no more moisture from the eggs within said chamber than the incoming fresh air brings in. The egg-tray shown is composed of rollers 6 6, &c., upon which the eggs are arranged for incuba-

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 656,760, dated August 28, 1900.

Application filed May 25, 1900. Serial No. 18,013. (No model.)

To all whom it may concern:

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My invention relates to improvements in incubators or egg-hatching machines, and has for one of its objects to ventilate the hatching-chamber in such a manner that the humidity of the air within the hatching-chamber will at all times be about the same as that of the outer free atmosphere. Meanwhile the said air will be moving slowly, positively, and bodily through the said hatching-chamber from the point of entrance into said chamber to the place of exit therefrom.

Another object of my present invention is to maintain a practically-even temperature throughout the entire interior of the hatching-chamber along the side walls, as well as in the center thereof.

In a properly-devised incubator the body of heated air should have a slow but positive downward movement toward the eggs, and the temperature of the heated air should be automatically regulated, and the entire space within the walls of the hatching-chamber should be of the same temperature. In my present invention I prefer to construct the entire walls of the hatching-chamber of a material and in a manner which is impermeable to air or gas. In addition to the hatching-chamber I preferably employ two other or auxiliary chambers, which may be arranged (if so preferred) within the said hatching-chamber. One of said auxiliary chambers I shall term a "distributing" inlet or chamber, and it is arranged near the under side of the upper wall of said hatching-chamber and has an opening leading to the outer free atmosphere. The other auxiliary chamber I shall term the "exhaust" outlet or chamber, and it is arranged near the bottom of the interior of the hatching-chamber, and it has an opening leading, preferably, to the flame of the heater, so that a positive downdraft will be maintained through the hatching-chamber so long as the heater-flame is supplied with air.

My invention will be more fully understood by reference to the accompanying drawings, in which—

Figure 1 represents a vertical section through the aforesaid three chambers of the incubator and the ducts connected therewith. Fig. 2 illustrates a plan whereby several hatching-chambers may be so connected that one source of heat will supply all of said chambers. Fig. 3 exhibits a plan view of the removable egg-tray shown in section at Figs. 1 and 2.

In Fig. 1 the walls A A, &c., inclose the hatching-chamber.

C is the distributing-chamber, which is suspended from or held near the upper wall of said hatching-chamber. The said distributing-chamber communicates through pipe or duct D (and heating-duct E) with the free outer air.

F is the exhaust-chamber, located slightly above the bottom wall or floor of the hatching-chamber B B. Exhaust-chamber F communicates through duct G with the flame of heater H.

The interior of hatching-chamber C communicates with the interior of chamber B through the large porous diaphragm I and small porous diaphragms 2 3. The interior of chamber B communicates with the interior of chamber F through the large porous diaphragm J and small porous diaphragms 4 5. The said diaphragms may be composed of cotton cloth or any other suitable porous material. The diaphragms herein shown and specified are porous—that is to say, they are full of minute apertures, through which the air passes in diffused minute quantities, thereby compelling the air-movement within said chamber to be so slow that the outgoing air and gases can take no more moisture from the eggs within said chamber than the incoming fresh air brings in. The egg-tray shown is composed of rollers 6 6, &c., upon which the eggs are arranged for incubation. These rollers are preferably felt-covered and are carried by the frame L, as shown in Fig. 3, and they rest upon movable bar M. Bar M when moved will cause the said rollers to rotate, and thereby turn the eggs. It will be observed that the small diaphragms 2 3 4 5 assist in evenly distributing the downwardly-moving body of air as it passes through the incubator. A thermostat is shown at R, Fig. 1, the lower end of which

is secured to the side wall by means of bracket S, while the upper end connects with lever T, which in turn actuates lever V, thereby controlling valves W X, each of which is hinged to its individual support. As the temperature rises within said hatching-chamber the thermostat expands, and acting through levers T V it first causes valve W to open, and simultaneously therewith said thermostat will cause the "slack" or "lost motion," (which is purposely left in link Z,) and then the slightest increase in the expansion of said thermostat will cause valve X to open. Thus it will be seen that if valve W does not sufficiently check the rise of the temperature within said hatching-chamber then valve X opens and allows air to pass directly from the free outer atmosphere to the heater-flame, so that the movement of the air through the hatching-chamber will temporarily be abnormally slow. Of course when the temperature falls sufficiently the thermostat will contract and cause the aforesaid valves to close.

It has been found that a heater sufficiently large to properly heat the hatching-chamber should obtain from the surrounding outer atmosphere a portion of the air for the maintenance of the heater-flame. Thereby the amount of air drawn from the hatching-chamber within a given time will be such that (during incubation) the air movement therein will approximate that due to the natural movement of the gases thrown off by the incubating eggs. In such cases link Z is adjusted so as to take up the lost motion between lever V and valve X; therefore valve W will normally rest on its seat, while valve X will be raised from its seat, and thereby air will be admitted directly from the onter atmosphere to the heater-flame. Then if the thermostatic regulator should be made to operate both of said valves would work in unison. Therefore it will be noted that there will be no cooling of the air-heating surfaces during incubation and no undue rapid movement of the air in the hatching-chamber and that the ingress and egress of the air passing through the hatching-chamber is preferably controlled by minute pores, in contradistinction to large apertures or perforations. The pipe covered by valve X may extend upward to any desired height.

The preferred operation of the air in the incubator is as follows: The heater being lighted will cause the air which is to be used for incubation to be heated [illegible] through ducts [illegible]

I have found that when it is desired to have a large number of eggs incubating simultaneously and the entire number supplied with heat from one source it will be most successful where the incubator system has a plurality of comparatively-small hatching-chambers, (instead of one large one,) each of which should have an independent temperature-regulator, while one source of heat should be common to and supply all of said chambers. Whether steam, water, air, or electricity is used to distribute the heat to the several chambers, each regulator should control that portion of steam, water, air, or electricity which heats the particular chamber to which a given regulator is assigned, and the action of the regulators may be made to assist in regulating the source of heat. Furthermore, the entire number of eggs—say, one thousand or two thousand—contained in any one hatching-chamber should be spread out on the movable trays, so that all would occupy as near one level as possible. One arrangement embodying such ideas is illustrated at Fig. 2, in which two hatching-chambers B B' are separated by wall A'. The thermostats or temperature-regulators R R are each independent of the other and control valves W W', respectively, so that the heat (supplied from heater H) and the air passing through duct E may be automatically regulated before it reaches the eggs within the interior of said hatching-chambers. Duct E may extend over the edges and down the sides of the hatching-chambers to point N and may be of any suitable width. Thus it may form a hall through which the interior of said chambers can be reached. It is obvious that the porous diaphragms I J, &c., may be of any suitable size, and they will prevent air-currents within said hatching-chambers, and therefore the natural humidity of the air will supply ample moisture to the eggs while they are incubating. Valve K may be used, if so desired, to assist in regulating the air movement simultaneously in all of said hatching-chambers, and it may be adjusted by hand by means of screw O, which rests against leg P. Thus it will be noted that the arrangement shown in Fig. 2 is such that a slow downward movement of the air is maintained simultaneously in all of said chambers.

The new and useful result obtained by supplying heat from a single source to a plurality of hatching-chambers is the economy [illegible] single incubators in use in one [illegible]

the thermostat expands, and acting through levers T V it first causes valve W to open, and simultaneously therewith said thermostat will cause the "slack" or "lost motion," (which is purposely left in link Z,) and then the slightest increase in the expansion of said thermostat will cause valve X to open. Thus it will be seen that if valve W does not sufficiently check the rise of the temperature within said hatching-chamber then valve X opens and allows air to pass directly from the free outer atmosphere to the heater-flame, so that the movement of the air through the hatching-chamber will temporarily be abnormally slow. Of course when the temperature falls sufficiently the thermostat will contract and cause the aforesaid valves to close.

It has been found that a heater sufficiently large to properly heat the hatching-chamber should obtain from the surrounding outer atmosphere a portion of the air for the maintenance of the heater-flame. Thereby the amount of air drawn from the hatching-chamber within a given time will be such that (during incubation) the air movement therein will approximate that due to the natural movement of the gases thrown off by the incubating eggs. In such cases link Z is adjusted so as to take up the lost motion between lever V and valve X; therefore valve W will normally rest on its seat, while valve X will be raised from its seat, and thereby air will be admitted directly from the outer atmosphere to the heater-flame. Then if the thermostatic regulator should be made to operate both of said valves would work in unison. Therefore it will be noted that there will be no cooling of the air-heating surfaces during incubation and no undue rapid movement of the air in the hatching-chamber and that the ingress and egress of the air passing through the hatching-chamber is preferably controlled by minute pores, in contradistinction to large apertures or perforations. The pipe covered by valve X may extend upward to any desired height.

The preferred operation of the air in the incubator is as follows: The heater being lighted will cause the air which is to be used for incubation to be heated in chamber or duct E and then drawn through ducts K and D, thence into distributing-chamber C through diaphragms 2 3 and I, thence downward through the hatching-chamber B, and then through diaphragms 4 5 and J into exhaust-chamber F through duct G to the heater-flame, and thence out into the free air. The fire in the heater may be regulated by adjusting a stem which extends from the heater through an opening to the outside and terminates in wheel Y.

bers, (instead of one large one,) each of which should have an independent temperature regulator, while one source of heat should be common to and supply all of said chambers. Whether steam, water, air, or electricity is used to distribute the heat to the several chambers, each regulator should control that portion of steam, water, air, or electricity which heats the particular chamber to which a given regulator is assigned, and the action of the regulators may be made to assist in regulating the source of heat. Furthermore, the entire number of eggs—say, one thousand or two thousand—contained in any one hatching-chamber should be spread out on the movable trays, so that all would occupy as near one level as possible. One arrangement embodying such ideas is illustrated at Fig. 2, in which two hatching-chambers B B' are separated by wall A'. The thermostats or temperature-regulators R R are each independent of the other and control valves W W, respectively, so that the heat (supplied from heater H) and the air passing through duct E may be automatically regulated before it reaches the eggs within the interior of said hatching-chambers. Duct E may extend over the edges and down the sides of the hatching-chambers to point N and may be of any suitable width. Thus it may form a hall through which the interior of said chambers can be reached. It is obvious that the porous diaphragms I J, &c., may be of any suitable size, and they will prevent air-currents within said hatching-chambers, and therefore the natural humidity of the air will supply ample moisture to the eggs while they are incubating. Valve K may be used, if so desired, to assist in regulating the air movement simultaneously in all of said hatching-chambers, and it may be adjusted by hand by means of screw O, which rests against lug P. Thus it will be noted that the arrangement shown in Fig. 2 is such that a slow downward movement of the air is maintained simultaneously in all of said chambers.

The new and useful result obtained by supplying heat from a single source to a plurality of hatching-chambers is the economy both in time and fuel. For instance, suppose there are thirty single incubators in use in one plant and that to trim and fill one lamp consumes ten minutes. Now as each lamp requires the same amount of attention each day there would be five hours each day given to the attention required by the lamps. By means of my present invention no more than one-half hour each day would be required to attend to the single source of heat-supply. It is well known that one large heating apparatus is more efficient than a plurality of small ones.

In the construction of the system herein set forth I do not limit myself to the exact details of arrangement shown and described. Neither do I limit myself to any particular kind of heater or any other thing so long as I remain within the broad scope of my invention.

While I have termed my present invention an "incubator" and called chamber B the "hatching-chamber," it should not be understood that I confine my invention to incubation when it is obvious that it may be used for other purposes where it is desired to maintain a practically-uniform temperature throughout a slowly-moving body of air. For instance, the reception or hatching chamber may be utilized as a brooder or artificial protector for chickens.

What I claim is—

1. A machine of the character described consisting of a reception or hatching chamber, an air-inlet chamber having an air-distributing, porous diaphragm through which air is slowly and evenly delivered into the reception or hatching chamber, the said air-inlet chamber being arranged near the upper wall of said reception or hatching chamber, means for heating said air, an outlet-chamber having a porous diaphragm through which air is slowly and evenly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said reception or hatching chamber, and means for automatically regulating the temperature of said reception or hatching chamber, substantially as set forth.

2. A machine of the character described, consisting of a reception or hatching chamber devoid of supplied moisture, an air inlet or chamber having an air-distributing porous diaphragm through which air is delivered into said reception or hatching chamber, the said air inlet or chamber being near the upper wall of said reception or hatching chamber, means for heating said air, an outlet or exhaust chamber having a porous diaphragm through which air is evenly and slowly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said reception or hatching chamber, means for automatically regulating the temperature of said reception or hatching chamber, a pipe or duct arranged substantially as described, so that a tubular connection is established between the said outlet or exhaust and the heater, whereby a slow down-

hatching-chamber, and through which the air is exhausted from said reception or hatching chamber and means for automatically regulating the temperature of said reception or hatching chamber.

4. A machine of the character described, consisting of a reception or hatching chamber, an independently-constructed air-inlet chamber having an air-distributing porous diaphragm through which air is evenly delivered into said hatching-chamber, the said air-inlet being near the upper wall of said hatching-chamber, means whereby said air is heated, an independently-constructed air outlet or exhaust chamber having means through which air is evenly and slowly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said hatching-chamber, means for automatically regulating the temperature of the air in said hatching-chamber, a pipe connected to said exhaust-chamber, and a valve connected to said pipe whereby the amount of air drawn from said hatching-chamber, may be regulated.

5. A machine of the character described, consisting of a plurality of reception or hatching chambers, each having an independent temperature-regulator, an independent air-inlet, and an independent air-outlet, the said inlets and outlets being obstructed by porous diaphragms, a source of heat common to and supplying all of said chambers, and means whereby a slow air movement is maintained simultaneously in all of said chambers, for the purpose set forth.

6. A machine of the character described, consisting of a plurality of reception or hatching chambers each having an independent air-inlet, an independent air-outlet and an independent temperature-regulator, a single heating device having a tubular communication with all of said chambers, and means actuated by the heat from said device whereby a slow, even movement of the heated air is maintained, simultaneously, in all of the said chambers, substantially as set forth.

7. The combination of a plurality of reception or hatching chambers, each provided with an independent air-inlet, an independent air-outlet and an independent thermostat, a heater common to and supplying all of said chambers and a pipe or tube common to all of the air-outlets of said chambers, and leading therefrom to the fire in said heater, whereby a slow, bodily movement of the heated air

...ubator" and called chamber B the "hatching-chamber," it should not be understood that I confine my invention to incubation when it is obvious that it may be used for other purposes where it is desired to maintain a practically-uniform temperature throughout a slowly-moving body of air. For instance, the reception or hatching chamber may be utilized as a brooder or artificial protector for chickens.

What I claim is—

1. A machine of the character described consisting of a reception or hatching chamber, an air-inlet chamber having an air-distributing, porous diaphragm through which air is slowly and evenly delivered into the reception or hatching chamber, the said air-inlet chamber being arranged near the upper wall of said reception or hatching chamber, means for heating said air, an outlet-chamber having a porous diaphragm through which air is slowly and evenly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said reception or hatching chamber, and means for automatically regulating the temperature of said reception or hatching chamber, substantially as set forth.

2. A machine of the character described, consisting of a reception or hatching chamber devoid of supplied moisture, an air inlet or chamber having an air-distributing porous diaphragm through which air is delivered into said reception or hatching chamber, the said air inlet or chamber being near the upper wall of said reception or hatching chamber, means for heating said air, an outlet or exhaust chamber having a porous diaphragm through which air is evenly and slowly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said reception or hatching chamber, means for automatically regulating the temperature of said reception or hatching chamber, a pipe or duct arranged substantially as described, so that a tubular connection is maintained between the said outlet or exhaust chamber and the heater, whereby a slow downward air movement is maintained within said reception or hatching chamber.

3. A machine of the character described, consisting of a reception or hatching chamber, an air inlet or chamber through which air is slowly delivered into said reception or hatching chamber, means for heating said air, an outlet or chamber having a porous diaphragm which assists in maintaining a slow and even bodily air movement, within said chamber having an air-distributing porous diaphragm through which air is evenly delivered into said hatching-chamber, the said air-inlet being near the upper wall of said hatching-chamber, means whereby said air is heated, an independently-constructed air outlet or exhaust chamber having means through which air is evenly and slowly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said hatching-chamber, means for automatically regulating the temperature of the air in said hatching-chamber, a pipe connected to said exhaust-chamber, and a valve connected to said pipe whereby the amount of air drawn from said hatching-chamber, may be regulated.

5. A machine of the character described, consisting of a plurality of reception or hatching chambers, each having an independent temperature-regulator, an independent air-inlet, and an independent air-outlet, the said inlets and outlets being obstructed by porous diaphragms, a source of heat common to and supplying all of said chambers, and means whereby a slow air movement is maintained simultaneously in all of said chambers, for the purpose set forth.

6. A machine of the character described, consisting of a plurality of reception or hatching chambers each having an independent air-inlet, an independent air-outlet and an independent temperature-regulator, a single heating device having a tubular communication with all of said chambers, and means actuated by the heat from said device whereby a slow, even movement of the heated air is maintained, simultaneously, in all of the said chambers, substantially as set forth.

7. The combination of a plurality of reception or hatching chambers, each provided with an independent air-inlet, an independent air-outlet and an independent thermostat, a heater common to and supplying all of said chambers and a pipe or tube common to all of the air-outlets of said chambers, and leading therefrom to the fire in said heater, whereby a slow, bodily movement of the heated air is maintained, simultaneously in all of said chambers, substantially as set forth.

8. A machine of the character described, consisting of a reception or hatching chamber, an air-inlet communicating with the interior of said chamber, through an air-spreading horizontally-arranged minutely-apertured diaphragm, a second minutely-apertured diaphragm horizontally arranged between the interior of said chamber and the

air-outlet for the same, the second diaphragm being adapted to assist the first diaphragm to spread the air evenly throughout the said chamber, and to retard the air movement therein, means whereby said air is heated, and means whereby the temperature thereof is regulated, said temperature-regulating means consisting of two valves having suitable thermostatic connections which are adapted to operate said valves differentially, substantially as and for the purpose set forth.

9. A machine of the character described, consisting of a reception or hatching chamber devoid of supplied moisture, an independently-constructed air-inlet chamber having an air-distributing porous diaphragm through which air is evenly delivered into said hatching-chamber, the said air-inlet being near the upper wall of said hatching-chamber, means whereby said air is heated, an independently-constructed air outlet or exhaust chamber having a porous diaphragm through which air is evenly and slowly exhausted from said reception or hatching chamber, said outlet being at or near the bottom of said hatching-chamber, means for automatically regulating the temperature of the air in said hatching-chamber, and an upwardly-extending pipe or flue, leading from said exhaust-chamber, through the heater whereby a slow downward draft is maintained through said hatching-chamber, for the purpose set forth.

10. A machine of the character described consisting of a reception or hatching chamber, an air-inlet chamber communicating with the interior of said hatching-chamber, through an air-spreading, horizontally-arranged, minutely-apertured diaphragm, a second minutely-apertured diaphragm horizontally arranged between the interior of said hatching-chamber and an air-outlet chamber, the second diaphragm being adapted and arranged to assist the first-mentioned diaphragm to spread the air evenly throughout the said hatching-chamber, and to retard the air movement therein, means whereby the said air is heated, means whereby the temperature thereof is regulated and means whereby a slow downward draft is maintained through said hatching-chamber, for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 18th day of May, 1900.

GRANVILLE T. WOODS.

Witnesses:
JAMES A. DONNELLY,
FRANK S. OBER.

Also introduced as Defendants' Exhibit No. 47.

955

G. E. GOLDSTEIN.

APPARATUS FOR CURING OR ARTIFICIALLY AGING CIGARS.

APPLICATION FILED JUNE 20, 1914.

1,137,752. Patented May 4, 1915.

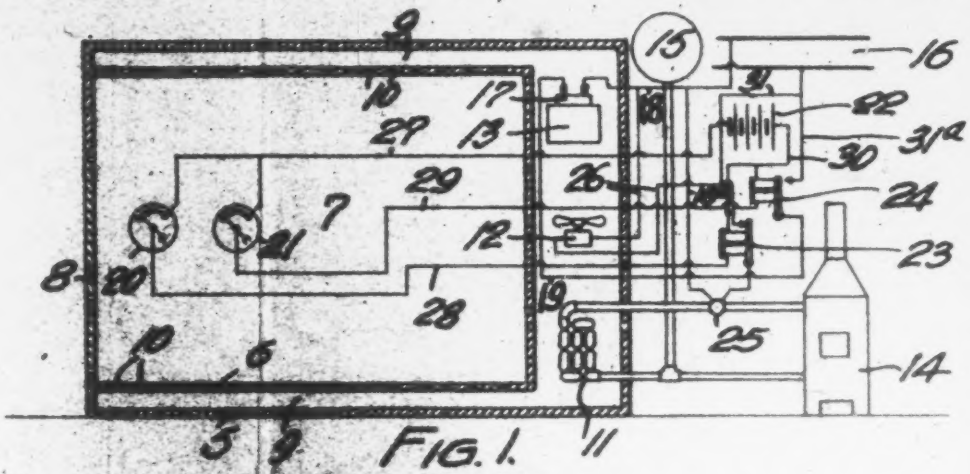


FIG. 1.

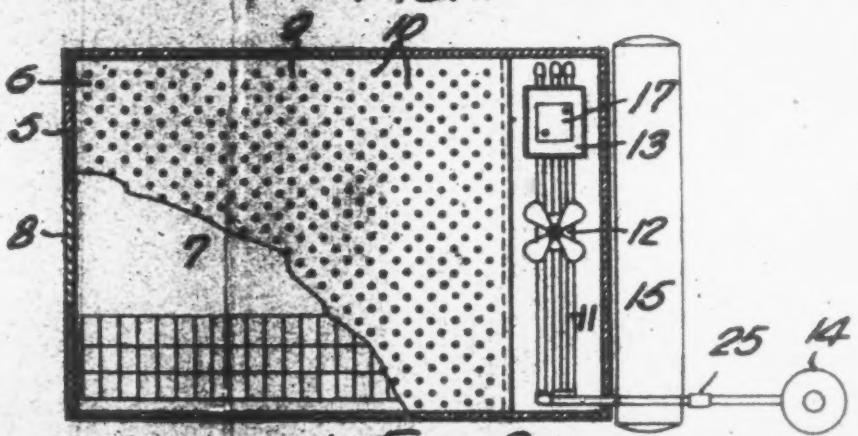
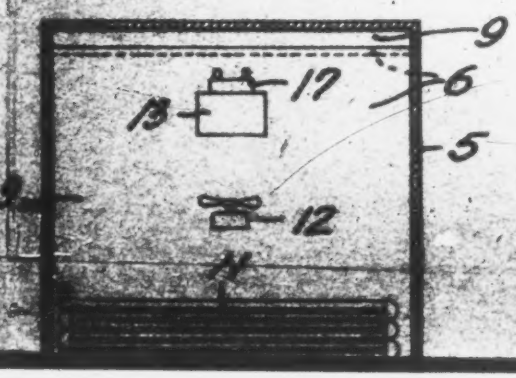


FIG. 2.



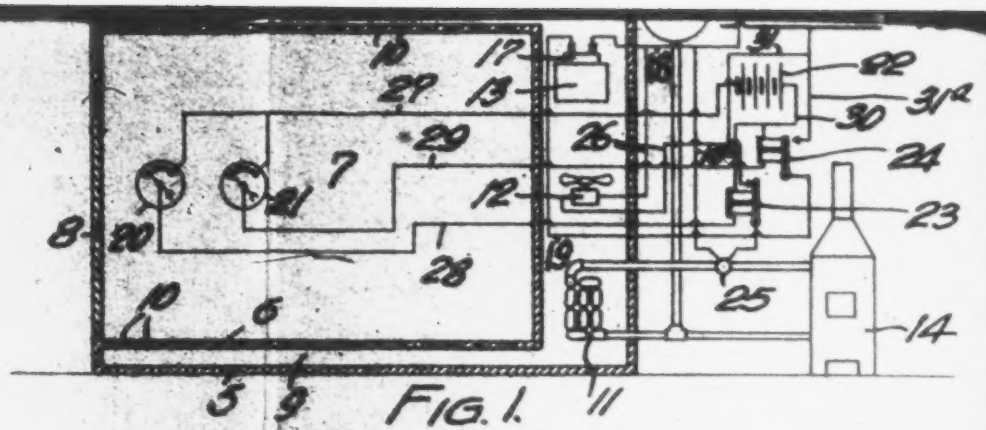


FIG. 1.

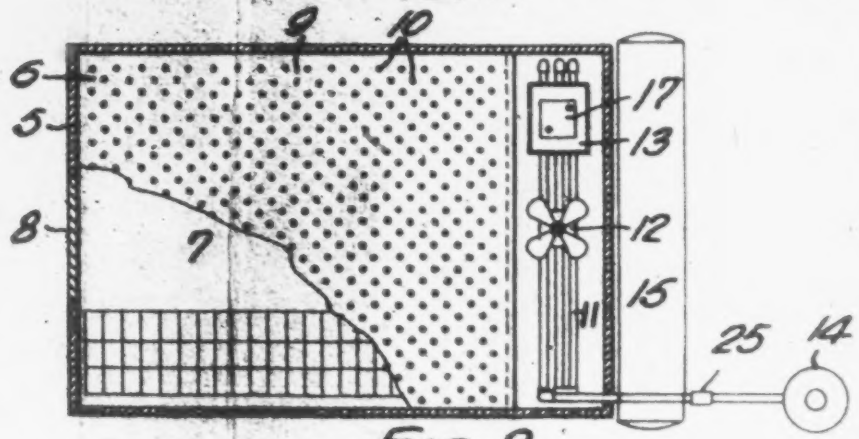


FIG. 2.

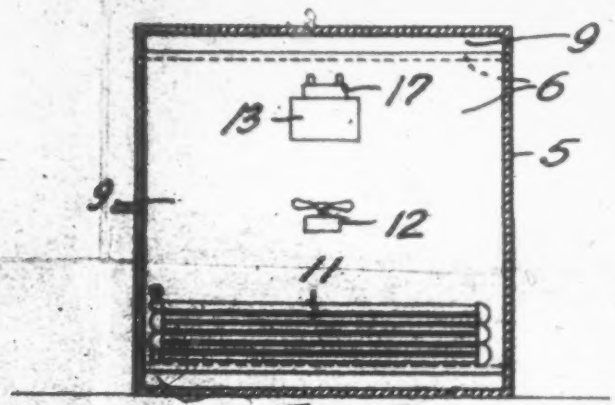


FIG. 3.

Witnesses

Inventor
G. E. Goldstein

By Fitzsimmons Laughlin & Co
His Attorneys

UNITED STATES PATENT OFFICE.

GEORGE E. GOLDSTEIN, OF MONTREAL, QUEBEC, CANADA.

APPARATUS FOR CURING OR ARTIFICIALLY AGING CIGARS.

1,137,752. Specification of Letters Patent. Patented May 4, 1915.

Application filed June 20, 1914. Serial No. 846,294.

To all whom it may concern:

Be it known that I, GEORGE E. GOLDSTEIN, of the city of Montreal, in the Province of Quebec and Dominion of Canada, a citizen of the Dominion of Canada, have invented certain new and useful Improvements in Apparatus for Curing or Artificially Aging Cigars, of which the following is a full, clear, and exact description.

This invention relates to improvements in apparatus for curing or artificially aging cigars or other forms of manufactured tobacco, and the object of the invention is to provide an apparatus which will operate automatically to maintain the proper temperature, humidity and circulation of the air coming in contact with the cigars.

The device consists essentially of a double walled chamber within which the cigars are stored. The inner wall is perforated, and air heating, humidifying and circulating means are provided in the space between the inner and outer walls of the chamber, so that the air is drawn from within the inner wall into the space between the inner and outer walls, brought to proper temperature and moisture, and redelivered within the inner wall. An electric thermometer and hygrometer are provided within the inner wall and automatically regulate the humidifying and heating apparatus to maintain as nearly as possible uniform conditions.

In the drawings which illustrate the invention:—Figure 1 is a vertical longitudinal section of the chamber showing the various elements of the apparatus diagrammatically. Fig. 2 is a plan view of the apparatus, the electrical equipment being omitted. Fig. 3 is a rear elevation of the device, the outer wall being removed.

Referring more particularly to the drawings, clearly shown in the drawings. The heating coil is connected to a heater 14 provided with a feed tank 15 for supplying water and maintaining pressure for circulation. The fan 12 is operated preferably by electric current drawn from the mains 16. The humidifying tank 13 contains an electric heating element 17 operated by current drawn from one of the mains 16 through wire 18 and returned to the opposite main through wire 19.

Within the chamber 7, an electric thermometer or thermostat 20 and an electric hygrometer 21 are provided, each having a fixed and a moving contact. The thermometer and hygrometer are electrified by current from a battery 22, and according as they make or break the battery circuits operate relay 23 and 24 respectively. The relay 23 is arranged to open and close the circuit of the heater 17, and the relay 24 is arranged to open and close the circuit of an electrically operated valve 25 located between the heater 14 and coil 11. The fan 12 is operated by current flowing from and to the mains through wires 26. Current flows from the battery through the wire 27 to both thermometer and hygrometer, and from the thermometer through wire 28 to the relay 23, and from the hygrometer through wire 29 to the relay 24, and from the relays back to the battery through wire 30. Current flows from the main 16 through wires 18 and 18ª to the heater 17 and valve 25, and returns through the armatures of the relays and wires 31 and 31ª.

The operation of the device is extremely simple. If the humidity rises above the set limit of variation, the instrument 21 makes contact, which energizes the magnet of the relay to draw up its armature, and thus

Patented May 4, 1915.

Application filed June 20, 1914. Serial No. 846,294.

To all whom it may concern:

Be it known that I, GEORGE E. GOLDSTEIN, of the city of Montreal, in the Province of Quebec and Dominion of Canada, a citizen of the Dominion of Canada, have invented certain new and useful Improvements in Apparatus for Curing or Artificially Aging Cigars, of which the following is a full, clear, and exact description.

This invention relates to improvements in apparatus for curing or artificially aging cigars or other forms of manufactured tobacco, and the object of the invention is to provide an apparatus which will operate automatically to maintain the proper temperature, humidity and circulation of the air coming in contact with the cigars.

The device consists essentially of a double walled chamber within which the cigars are stored. The inner wall is perforated, and air heating, humidifying and circulating means are provided in the space between the inner and outer walls of the chamber, so that the air is drawn from within the inner wall into the space between the inner and outer walls, brought to proper temperature and moisture, and redelivered within the inner wall. An electric thermometer and hygrometer are provided within the inner wall and automatically regulate the humidifying and heating apparatus to maintain as nearly as possible uniform conditions.

In the drawings which illustrate the invention:—Figure 1 is a vertical longitudinal section of the chamber showing the various elements of the apparatus diagrammatically. Fig. 2 is a plan view of the apparatus, the electrical equipment being omitted. Fig. 3 is a rear elevation of the device, the back outer wall being removed.

Referring more particularly to the drawings, 5 designates the outer and 6 the inner wall inclosing a chamber 7 for the storage of cigars. At the front of the chamber, in which is provided a door 8, and at the sides, the inner and outer walls may coincide, but it is essential that at back, top and bottom, a passage 9 be left for the circulation of air. At top and bottom, the inner wall 6 is provided with apertures 10 through which the air passes from the circulation passages into the chamber.

At the rear of the chamber, a heating coil 11, air circulating fan 12 and humidifying tank 13 are provided in the passage 9, as clearly shown in the drawings. The heating coil is connected to a heater 14 provided with a feed tank 15 for supplying water and maintaining pressure for circulation. The fan 12 is operated preferably by electric current drawn from the mains 16. The humidifying tank 13 contains an electric heating element 17 operated by current drawn from one of the mains 16 through wire 18 and returned to the opposite main through wire 19.

Within the chamber 7, an electric thermometer or thermostat 20 and an electric hygrometer 21 are provided, each having a fixed and a moving contact. The thermometer and hygrometer are electrified by current from a battery 22, and according as they make or break the battery circuits operate relay 23 and 24 respectively. The relay 23 is arranged to open and close the circuit of the heater 17, and the relay 24 is arranged to open and close the circuit of an electrically operated valve 25 located between the heater 14 and coil 11. The fan 12 is operated by current flowing from and to the mains through wires 26. Current flows from the battery through the wire 27 to both thermometer and hygrometer, and from the thermometer through wire 28 to the relay 23, and from the hygrometer through wire 29 to the relay 24, and from the relays back to the battery through wire 30. Current flows from the main 16 through wires 18 and 18^a to the heater 17 and valve 25, and returns through the armatures of the relays and wires 31 and 31^a.

The operation of the device is extremely simple. If the humidity rises above the set limit of variation, the instrument 21 makes contact, which energizes the magnet of the relay to draw up its armature, and thus break the circuit of the heater 17. When the humidity drops below a certain point, the battery circuit through the relay is broken and the relay armature drops, closing the heater circuit. If the temperature rises beyond the set limit of variation, the battery circuit through the relay 23 is made and the armature is drawn up, making the circuit of the valve 25, which closes and cuts off the supply of heat to the coil 11. When the temperature drops sufficiently, the circuit through the relay is broken by the thermostat, and when the relay releases its armature, the valve circuit is opened and the

valve opens, admitting heat to the coil. The fan operates continuously, forcing the warm humid air up and allowing it to enter at the top of the chamber 7, and work downwardly through the dryers, escaping at the bottom into the passage 8 to be again drawn up by the fan through the coil 11 and reheated and redehumidified.

While the invention has been shown in its simplest form, it is obvious that a number of changes may be made in the apparatus as required to meet special conditions. If electricity or fluid fuel are used for the heater 14, the valve 28 will be arranged to control the supply of the heating agent.

Having thus described my invention, what I claim is:—

1. A device of the character described, comprising a double walled chamber having the inner wall thereof formed perforate at opposite sides, an air heating coil, a water tank, and an air circulating fan located between the inner and outer walls, means for heating and circulating fluid through said coil, a heating apparatus located in the tank, a thermometer and a hygrometer located within the chamber, electrically actuated means controlled by said hygrometer governing the circulation of the heating fluid through said coil, and electrically actuated means controlled by the hygrometer governing the operation of the heater in said tank.

2. A device of the character described, comprising a double walled chamber having opposite inner walls thereof formed perforate, a water tank, an air circulating fan and a radiator located between the inner and outer walls, a fluid heating and circulating apparatus connected to said radiator, an electric water heating means within the tank, a thermometer and a hygrometer located within the chamber, means for controlling the temperature and supply of fluid through said radiator, a source of electric energy for said heater, said fan and said controlling means, a battery, a relay in circuit with the battery and thermometer arranged to govern the connection of said heating fluid controlling means with the source of energy, and a second relay in circuit with the battery and hygrometer arranged to govern the connection of said electric water heater with the source of energy.

In witness whereof, I have hereunto set my hand in the presence of two witnesses.

GEORGE E. GOLDSTEIN.

Witnesses:
S. R. W. Allen,
G. M. Morehland.

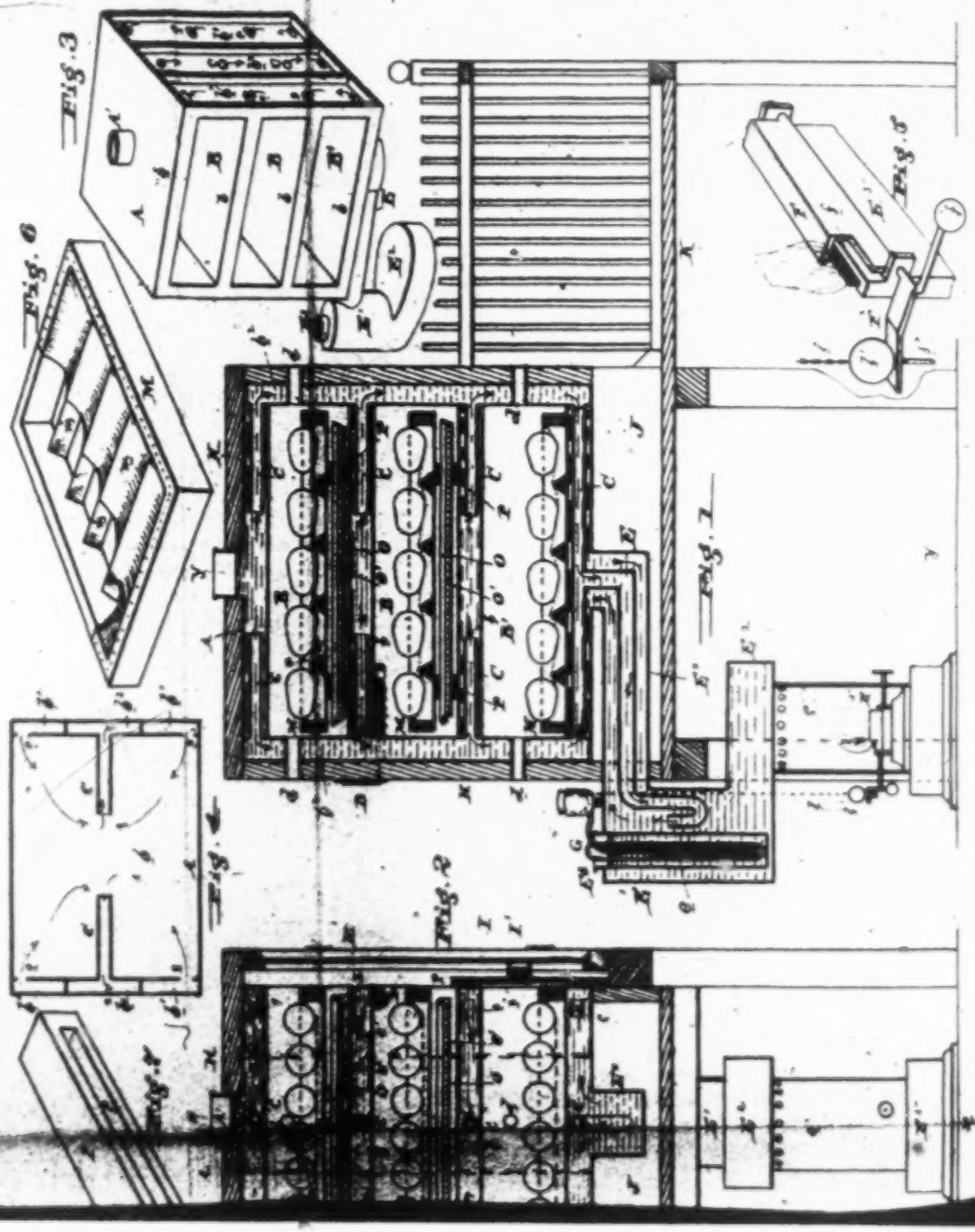
958

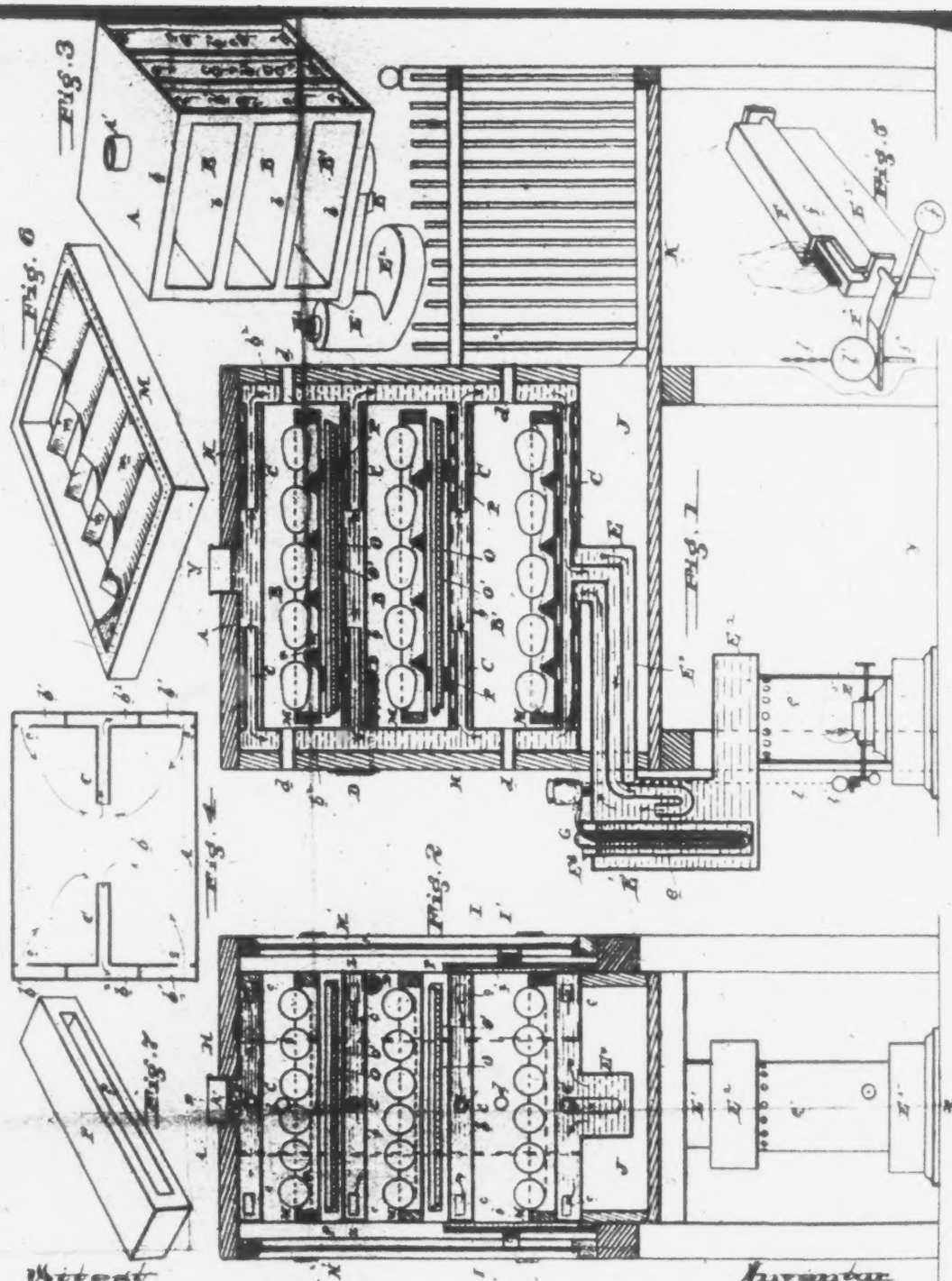
(No Model.) 2 Sheets—Sheet 1.

J. K. MESCHTER.

INCUBATOR.

No. 347,946. Patented Aug. 24, 1886.





Witnesses
G. E. Hummel.
Peter Stiller

Inventor
Jacob K. Meschter
By his atty

959

(No Model.) 2 Sheets—Sheet 2.

J. K. MESCHTER.

INCUBATOR.

No. 347,946. Patented Aug. 24, 1886.

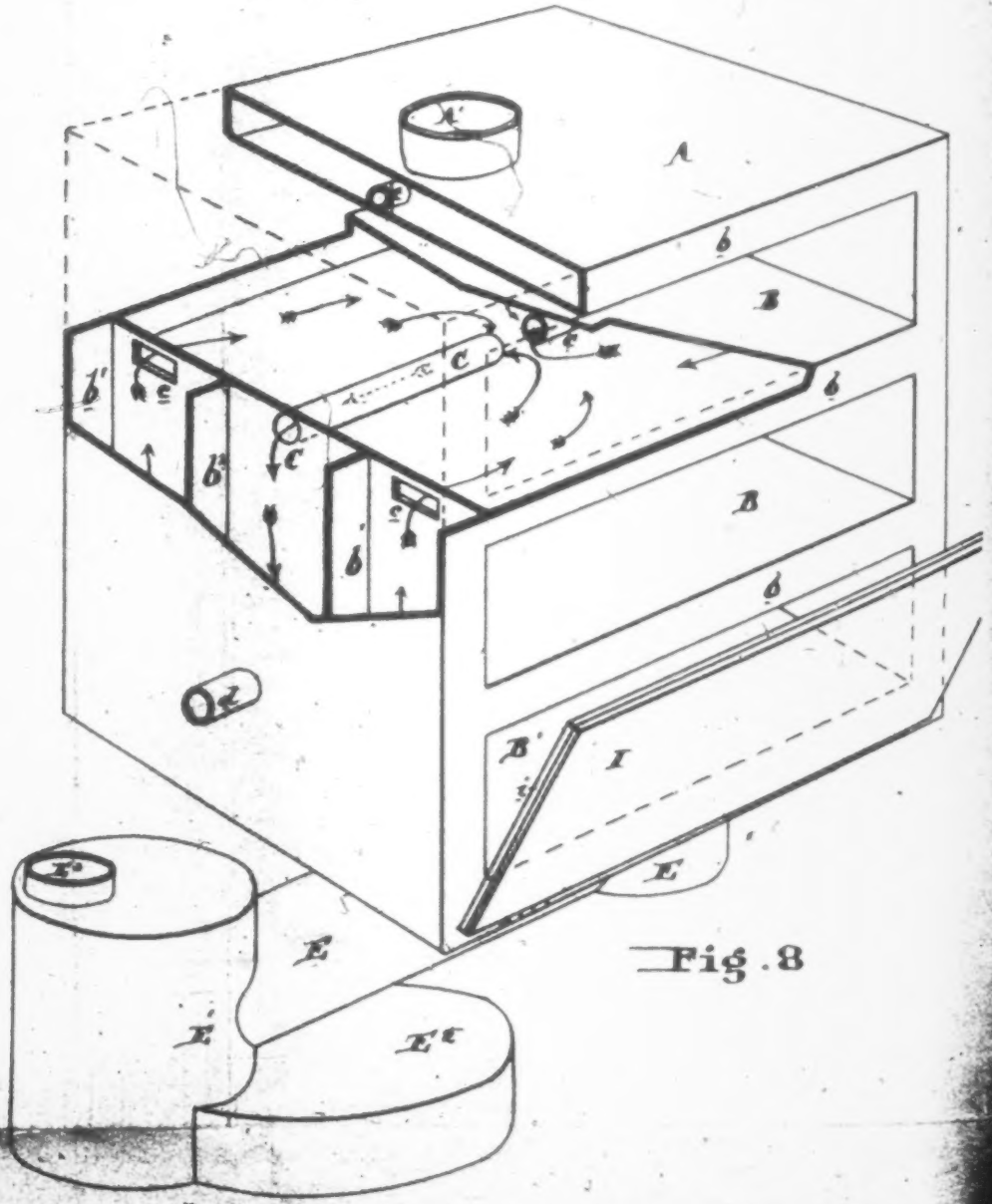


Fig. 8

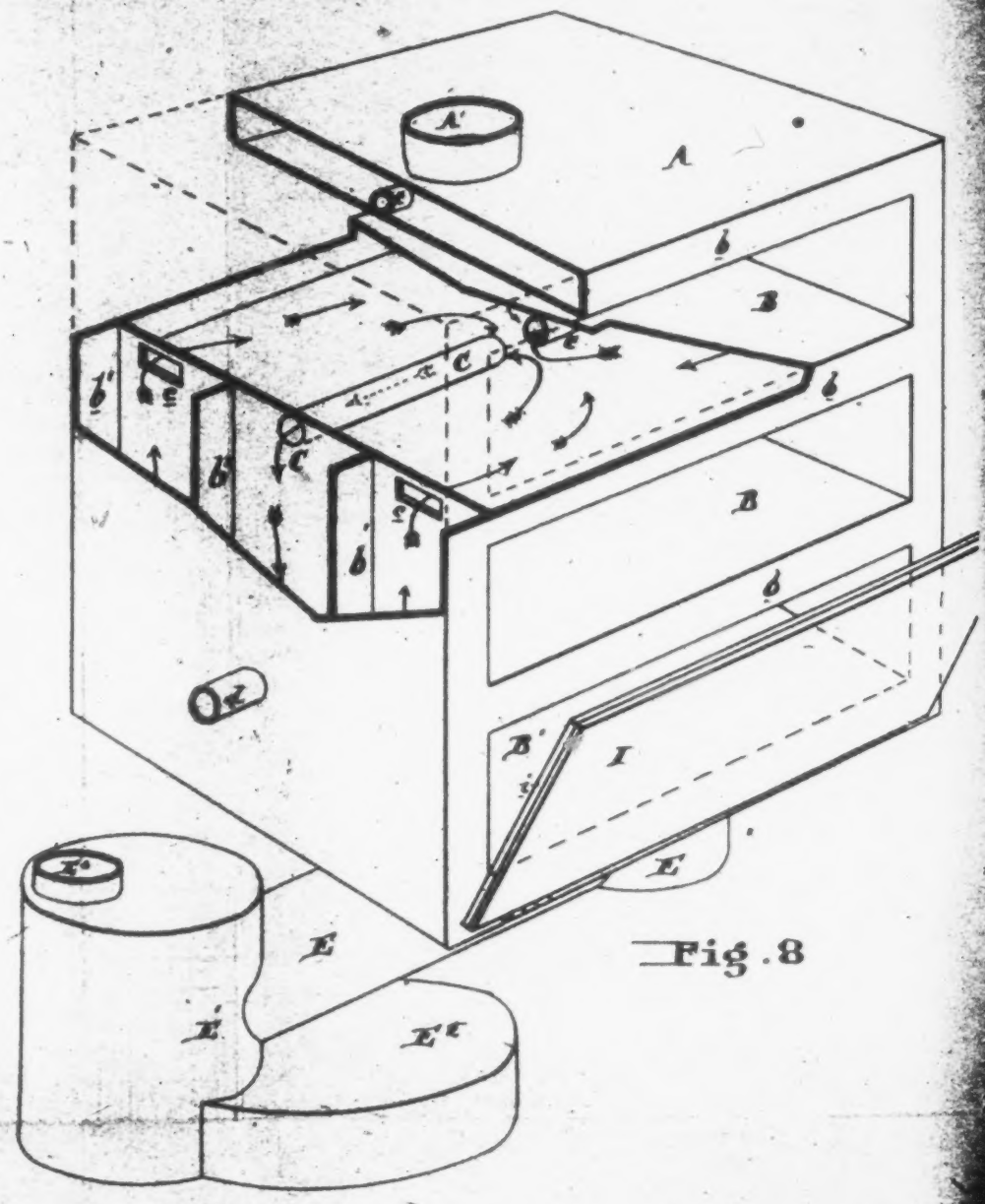


Fig. 8

Attest
J. L. Megrue
E. M. Breckinridge

Inventor
Jacob K. Mashler
By his atty.

UNITED STATES PATENT OFFICE.

JACOB K. MESCHTER, OF PHILADELPHIA, PENNSYLVANIA.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 347,946, dated August 24, 1886.

Application filed August 25, 1884. Serial No. 141,362. (No model.) Patented in England June 23, 1885, No. 7,653, and in France June 23, 1885, No. 169,730.

To all whom it may concern:

Be it known that I, JACOB K. MESCHTER, of the city and county of Philadelphia, and State of Pennsylvania, have invented new and useful Improvements in Incubators, of which the following is a specification.

My invention has reference to incubators; and it consists in certain improvements fully set forth in the following specification and shown in the accompanying drawings, which form part thereof.

This invention has been patented to me in Great Britain on June 23, 1885, and numbered 7,653, and in France on June 23, 1885, and numbered 169,730.

The object of my invention is to provide an incubator embodying all the constructions necessary for the most perfect hatching of the eggs, to the end that there shall be as few failures and breakages as possible.

This application is upon the construction of the incubator proper, and does not embody the means of regulating the temperature of the heating-water, as that forms subject-matter of another pending application, filed February 28, 1884, Serial No. 122,286, and allowed November 29, 1884.

In the drawings, Figure 1 is a sectional elevation of my improved incubator on line *x x*, Fig. 2. Fig. 2 is a similar view on line *y y*, Fig. 1. Fig. 3 is a perspective view of the hot-water circulating-boiler with one end removed to show how the water-currents are produced. Fig. 4 is a sectional plan view of same on line *z z*, Fig. 2. Fig. 5 is a perspective view of the lamp-burner and the regulating-valve. Fig. 6 is a perspective view of one of the supporting-trays for the eggs, with part of the flexible [illegible] covering cut away; and Fig. 7 is a perspective view of one of the wooden supports [illegible] the moistening-trays, which are also adapted [illegible] support the egg-trays over said moistening- [illegible] is a perspective view of the

b', from the former of which apertures *c* open into the interior of the horizontal floors, and from the latter of which tubes C extend into the space of said horizontal floors, as shown in Figs. 4 and 8.

E is a tube opening into the bottom floor, *b*, from below and connects with the heater E' and boiler E². The two pipes C in the space of the lower floor are united and terminate in a pipe, E', which passes through pipe E, and has an upwardly-turned nozzle, *e*, in the heater E'. The water is placed in the above specified apparatus by a pipe, A'.

E³ is a lamp, preferably inclosed with a sheet-metal chimney, *e'*, and is arranged under the boiler E², and heats the circulating-water, causing a circulation, as indicated by arrows, the upwardly-turned nozzle *e* facilitating said circulation. This hot-water-circulating apparatus is inclosed within a wooden case or covering, H, provided with one or more doors, H', preferably of glass, and said case forms on the bottom a chamber, J, the ceiling of which is the bottom of circulator A, whereby said chamber is kept warm. One end of said chamber opens into the brooding-yard K, which may be of any desired size and shape, and is preferably covered with earth.

The two upper chambers, B B, of the circulator proper are open on each side, and may have ventilating-tubes *d* opening into the atmosphere to allow of a proper circulation of air; but the lower chamber, B', is closed on each side by hinged doors I, having their faces *i* covered with felt, and kept closed by springs I', which are pressed upon by doors H'. Any other suitable fastening may be used, if desired. While this lower compartment is comparatively tight, it may also be provided with ventilating-tubes *d*, to carry off impure air.

D is a thermometer to indicate the temperature of the air in chamber B.

The heater-lamp E³ is provided with a cut-

JACOB K. MESCHTER, OF PHILADELPHIA, PENNSYLVANIA.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 347,946, dated August 24, 1886.

Application filed August 25, 1884. Serial No. 141,382. (No model.) Patented in England June 23, 1885, No. 7,653, and in France June 23, 1885, No. 169,730.

To all whom it may concern:

Be it known that I, JACOB K. MESCHTER, of the city and county of Philadelphia, and State of Pennsylvania, have invented new and useful Improvements in Incubators, of which the following is a specification.

My invention has reference to incubators; and it consists in certain improvements fully set forth in the following specification and shown in the accompanying drawings, which form part thereof.

This invention has been patented to me in Great Britain on June 23, 1885, and numbered 7,653, and in France on June 23, 1885, and numbered 169,730.

The object of my invention is to provide an incubator embodying all the constructions necessary for the most perfect hatching of the eggs, to the end that there shall be as few failures and breakages as possible.

This application is upon the construction of the incubator proper, and does not embody the means of regulating the temperature of the heating-water, as that forms subject-matter of another pending application, filed February 28, 1884, Serial No. 122,286, and allowed November 29, 1884.

In the drawings, Figure 1 is a sectional elevation of my improved incubator on line *x x*, Fig. 2. Fig. 2 is a similar view on line *y y*, Fig. 1. Fig. 3 is a perspective view of the hot-water circulating-boiler with one end removed to show how the water-currents are produced. Fig. 4 is a sectional plan view of same on line *z z*, Fig. 2. Fig. 5 is a perspective view of the lamp-burner and the regulating-valve. Fig. 6 is a perspective view of one of the supporting-trays for the eggs, with part of the flexible or soft covering cut away; and Fig. 7 is a perspective view of one of the wooden supports for the moistening-trays, which are also adapted to support the egg-trays over said moistening-trays. Fig. 8 is a perspective view of the hot-water circulator, with part broken away.

A is the hot-water circulator, and consists of hollow partitions *b*, which form the chambers B B and B'. The side walls are supported from the horizontal walls or floors, and are further divided vertically into spaces *b' b'* and *b²*, from the former of which apertures *c* open into the interior of the horizontal floors, and from the latter of which tubes C extend into the space of said horizontal floors, as shown in Figs. 4 and 8.

E is a tube opening into the bottom floor, *b*, from below and connects with the heater E' and boiler E². The two pipes C in the space of the lower floor are united and terminate in a pipe, E', which passes through pipe E, and has an upwardly-turned nozzle, *e*, in the heater E'. The water is placed in the above specified apparatus by a pipe, A'.

E² is a lamp, preferably inclosed with a sheet-metal chimney, *e'*, and is arranged under the boiler E², and heats the circulating-water, causing a circulation, as indicated by arrows, the upwardly-turned nozzle *e* facilitating said circulation. This hot-water circulating apparatus is inclosed within a wooden case or covering, H, provided with one or more doors, H', preferably of glass, and said case forms on the bottom a chamber, J, the ceiling of which is the bottom of circulator A, whereby said chamber is kept warm. One end of said chamber opens into the brooding-yard K, which may be of any desired size and shape, and is preferably covered with earth.

The two upper chambers, B B, of the circulator proper are open on each side, and may have ventilating-tubes *d* opening into the atmosphere to allow of a proper circulation of air; but the lower chamber, B', is closed on each side by hinged doors I, having their faces *i* covered with felt, and kept closed by springs I', which are pressed upon by doors H'. Any other suitable fastening may be used, if desired. While this lower compartment is comparatively tight, it may also be provided with ventilating-tubes *d*, to carry off impure air.

D is a thermometer to indicate the temperature of the air in chamber B.

The heater-lamp E² is provided with a cut-off valve, F, hinged at F', and having a notch, *f*, so that when closed it still leaves a small part of the wide wick *e²* exposed, as shown in Fig. 5. This valve is normally kept thrown back, but may be closed by hand or automatically by apparatus controlled by the temperature

of the water, one form of which apparatus is fully set forth in another application, hereinbefore referred to. This cut-off valve may be modified in various ways—for instance, it may be made to slide.

The trays for the eggs consists of frames M, having cross-slats *m'*, and covered with coarse or open canvas *m*, or other soft material, which hangs as shown in Fig. 6. The eggs N are laid upon canvas *m*, between the slats *m'*, as shown in Fig. 1.

O are the evaporating-pans, and carry the pads O', of asbestus or other absorbent material, and are supported within the chambers B by wooden supports P, having slots *p*, through which the pans or trays are placed, so that they shall not interfere with the radiation of heat from the floors *b*.

Heretofore it has been the custom to use moist earth to impart the requisite moisture to the atmosphere in the chamber B; but there was always liability of getting too much water or not enough, and the use of earth was dirty and objectionable. By my method of using an absorbent pad of a given size, when saturated it will always take up the same quantity of moisture, neither more nor less than required.

In the lower chamber, B', the frames M rest upon the floor *b*; but in the chambers B the frames rest upon the supports P, above the water-trays O.

The eggs are first placed in the chamber B', where they must be kept dry, no other moisture than that contained in the egg itself being required, and, in fact, if more moisture be added it would destroy the hatching quality of the eggs. After being treated in chamber B' for some time they are then placed above the trays O in chambers B, where additional moisture is required, and when hatched the chickens are placed in chamber J and allowed to run free in the yard K.

In practice there are three sets of eggs in the incubator all the time, and it is evident that by varying the capacity of the incubator more than three sets of eggs could be simultaneously treated.

By the use of the soft bottoms to the egg-trays I am enabled to place two trays together, and by turning them over transfer the eggs from one tray to the other and at the same time turn them, a feature very necessary to

[illegible] may be used—as oil, [illegible]—and in place of an oil-lamp a gas-burner may be used to heat the circulating [illegible] and the valve E

A, having chambers B and B', and consisting of hollow floors and walls *b*, vertical passage-ways *b' b²* at each end and connecting with said floors, the passage-ways *b'* by apertures *c*, and passage-ways *b²* by pipe C, and means to heat the water to cause a circulation of the hot water up through passage-ways *b'* and back through the floors, pipe C, and passage-ways *b²*, substantially as and for the purpose specified.

2. In an incubator, the hot-water circulator A, having chambers B and B', and consisting of hollow floors and walls *b*, vertical passage-ways *b' b²* at each end connecting with said floors, the passage-ways *b'* by apertures *c*, and passage-ways *b²* by pipes C, pipe E connecting with the bottom of passage-ways *b'*, pipe E', having nozzle *e*, and connecting with the bottom of passage-ways *b²*, and means to heat the water to cause a circulation of the hot water-up through passage ways *b'* and back through the floors, pipes C, and passage-ways *b²*, substantially as and for the purpose specified.

3. The heated hatching-chambers B B, exposed to the atmosphere, the heated hatching-chamber B', closed to the atmosphere, doors I, to close the entrances of said chamber B' alone, egg-trays in each of said chambers, and moistening-pads located under the trays in each of the chambers B, but not in the closed chamber B', the inclosing case H, loosely covering all of said chambers to prevent quick drafts of air, and tubes *d*, connecting one of the open chambers B and the closed chamber B' with the atmosphere, substantially as and for the purpose specified.

4. A frame to support the eggs in an incubator, consisting of a rectangular frame, M, having cross-bars *m'*, made triangular in cross-section, and a soft flexible bottom, *m*, supported over said bars, whereby the eggs are held in rows and each row is separated from the next, substantially as and for the purpose specified.

5. The combination of the pad-tray O, the porous water-holding pad O' therein, the slotted frames P, through the slots of which the tray is placed, and egg-frames M, having soft bottoms and supported upon said frames P, above the pad O', substantially as and for the purpose specified.

6. The hot-water circulator having chambers B B B', in combination with doors I, having springs I' and pads to close the chamber B', case H, and doors H' thereto, which when closed press upon the springs I' and cause the doors I to tightly close the chamber

O are the evaporating-pans, and carry the pads O', of asbestus or other absorbent material, and are supported within the chambers B by wooden supports P, having slots p, through which the pans or trays are placed, so that they shall not interfere with the radiation of heat from the floors *b*.

Heretofore it has been the custom to use moist earth to impart the requisite moisture to the atmosphere in the chamber B; but there was always liability of getting too much water or not enough, and the use of earth was dirty and objectionable. By my method of using an absorbent pad of a given size, when saturated it will always take up the same quantity of moisture, neither more nor less than required.

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In practice there are three sets of eggs in the incubator all the time, and it is evident that by varying the capacity of the incubator more than three sets of eggs could be simultaneously treated.

By the use of the soft bottoms to the egg-trays I am enabled to place two trays together, and by turning them over transfer the eggs from one tray to the other and at the same time turn them, a feature very necessary to the proper hatching of chicken eggs.

Instead of water any other heating-fluid may be used—as oil, glycerine, &c.—and in place of an oil-lamp a gas-burner may be used to heat the circulating-boiler, and the valve F may control the flow of gas.

While I prefer the construction shown, it may be modified in various ways without departing from my invention.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an incubator, the hot-water circulator [illegible] of hollow floors and walls *b*, vertical passage-ways *b'* *b²* at each end connecting with said floors, the passage-ways *b'* by apertures *c*, and passage-ways *b²* by pipes C, pipe E connecting with the bottom of passage-ways *b'*, pipe E', having nozzle *e*, and connecting with the bottom of passage-ways *b²*, and means to heat the water to cause a circulation of the hot water up through passage-ways *b'* and back through the floors, pipes C, and passage-ways *b²*, substantially as and for the purpose specified.

3. The heated hatching-chambers B B, exposed to the atmosphere, the heated hatching-chamber B', closed to the atmosphere, doors I, to close the entrances of said chamber B' alone, egg trays in each of said chambers, and moistening-pads located under the trays in each of the chambers B, but not in the closed chamber B', the inclosing case H, loosely covering all of said chambers to prevent quick drafts of air, and tubes *d*, connecting one of the open chambers B and the closed chamber B' with the atmosphere, substantially as and for the purpose specified.

4. A frame to support the eggs in an incubator, consisting of a rectangular frame, M, having cross-bars *m'*, made triangular in cross-section, and a soft flexible bottom, *m*, supported over said bars, whereby the eggs are held in rows and each row is separated from the next, substantially as and for the purpose specified.

5. The combination of the pad-tray O, the porous water-holding pad O' therein, the slotted frames P, through the slots of which the tray is placed, and egg-frames M, having soft bottoms and supported upon said frames P, above the pad O', substantially as and for the purpose specified.

6. The hot-water circulator having chambers B B B', in combination with doors I, having springs I' and pads to close the chamber B', case H, and doors H' thereto, which when closed press upon the springs I' and cause the doors I to tightly close the chamber B', substantially as and for the purpose specified.

In testimony of which invention I hereunto set my hand.

JACOB K. MESCHTER.

Witnesses:
R. M. HUNTER,
WILLIAM C. MAYNE.

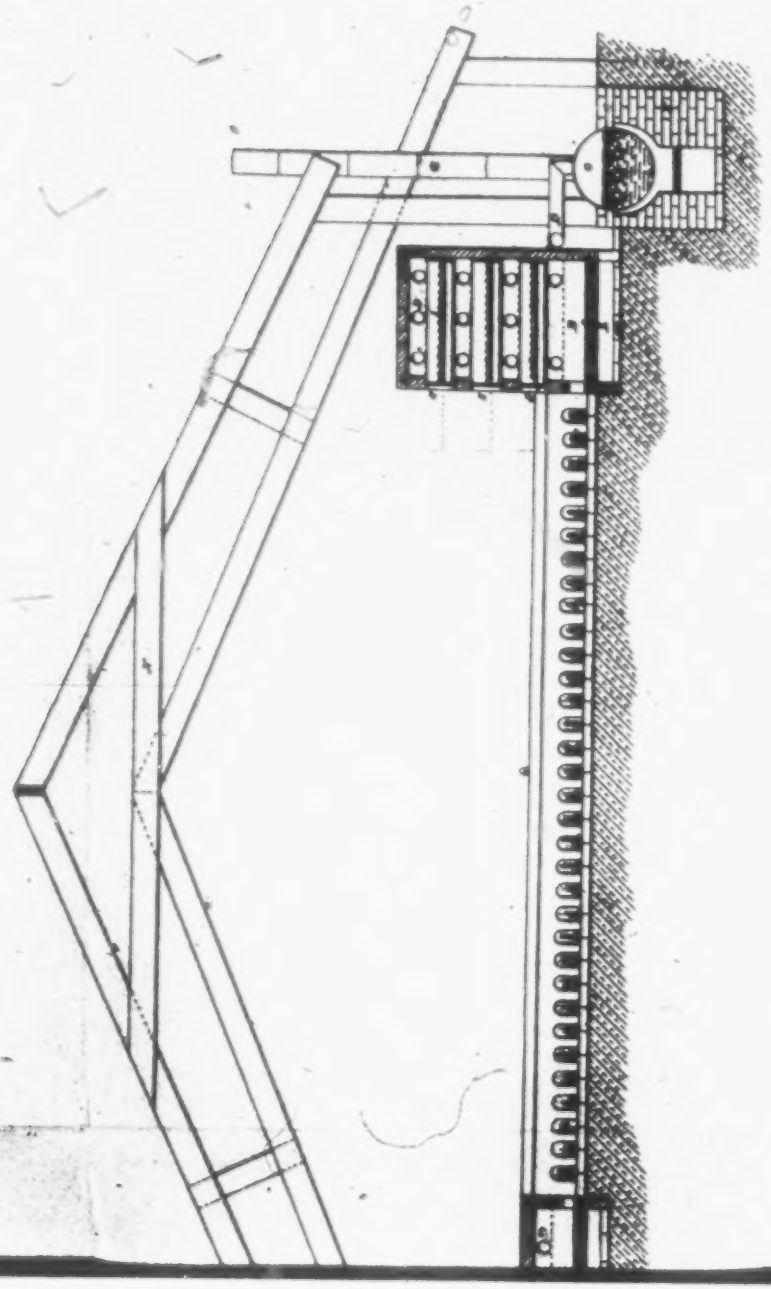
962

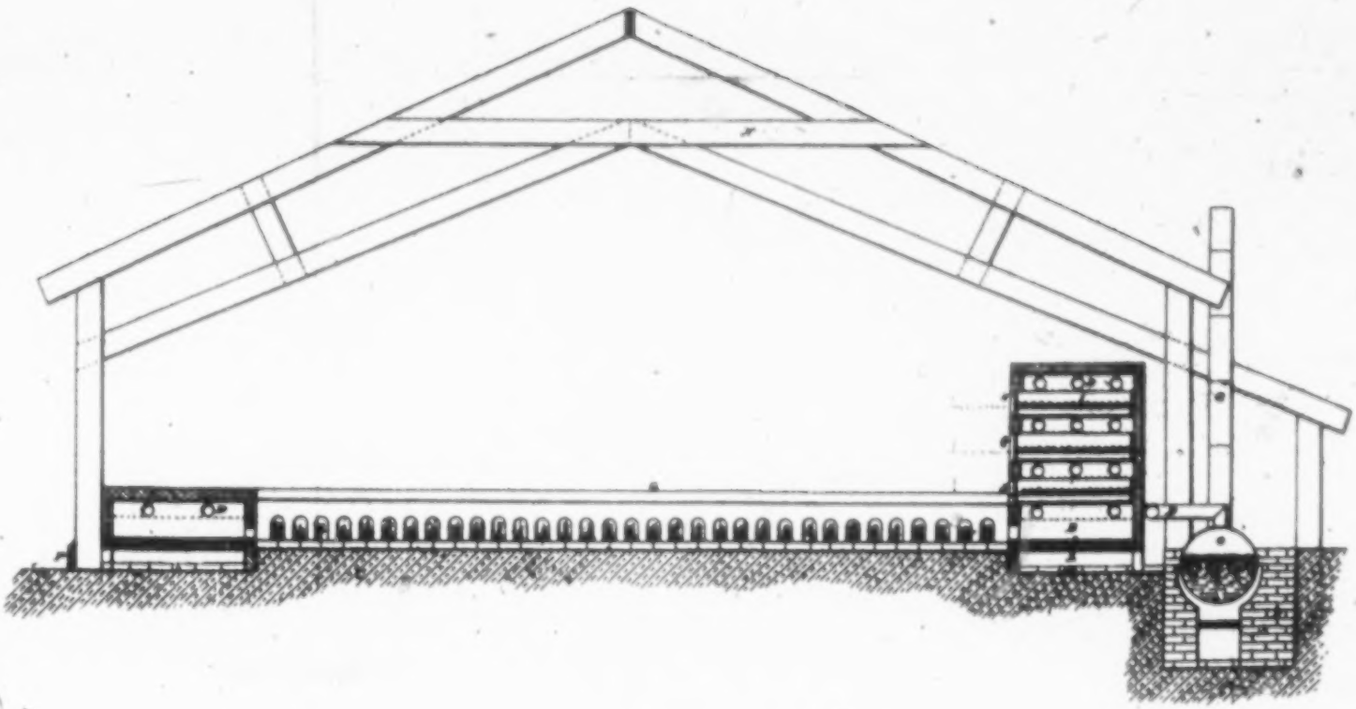
4 Sheets—Sheet 1.

N. E. GUERIN.

ARTIFICIAL METHOD OF REARING CHICKENS.

No. 3,019. Patented Mar. 30, 1843.





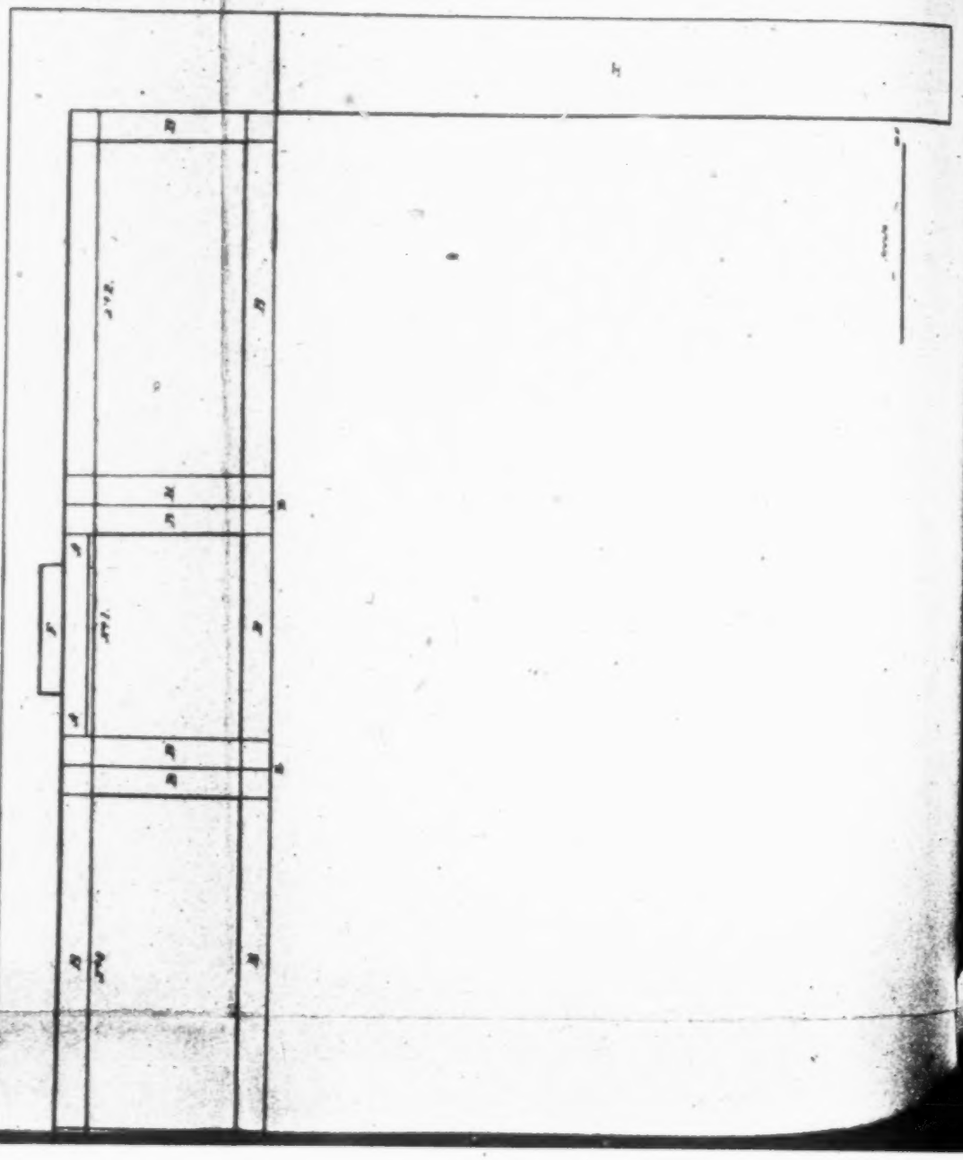
963

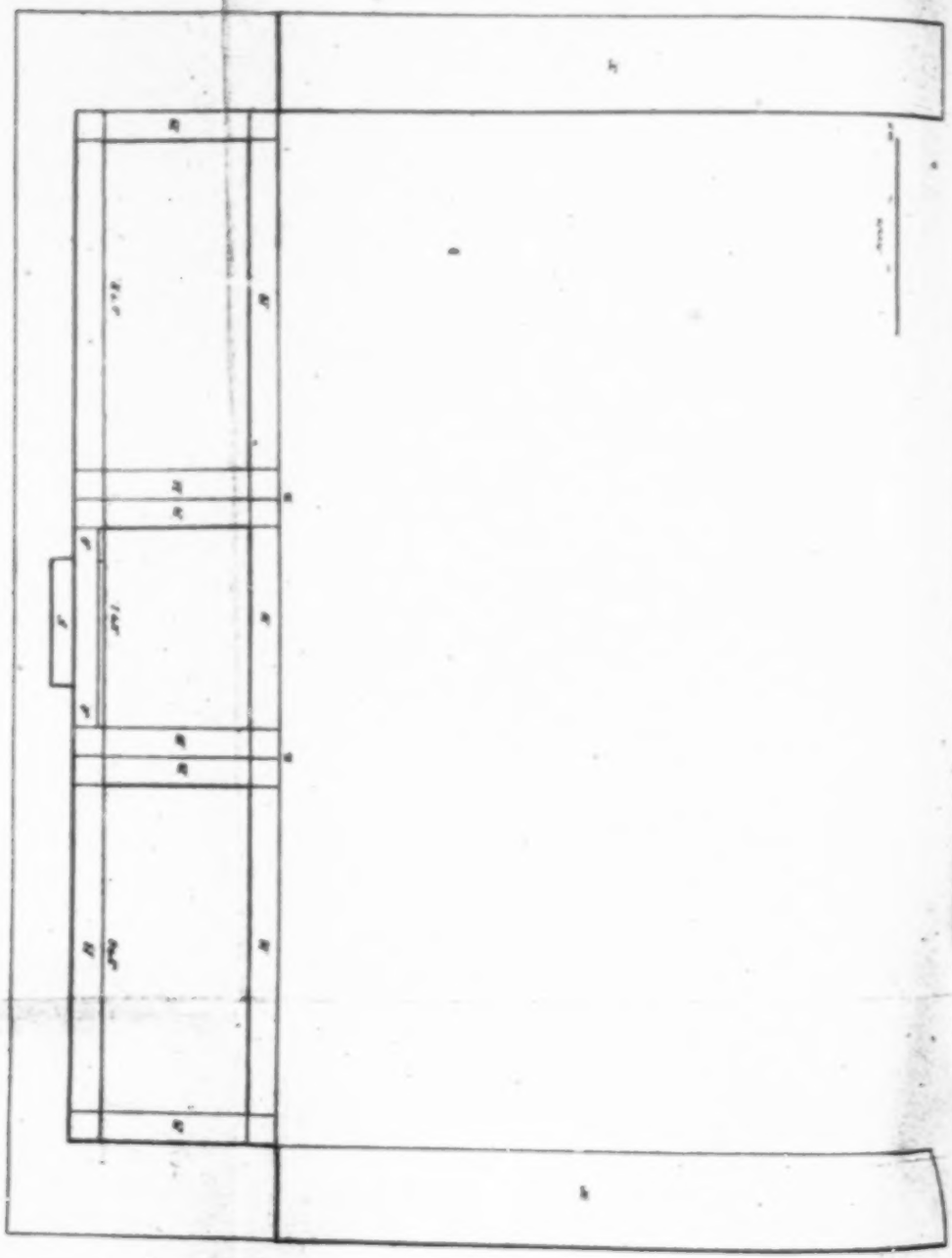
4 Sheets—Sheet 3.

N. E. GUERIN.

ARTIFICIAL METHOD OF REARING CHICKENS.

No. 3,019. Patented Mar. 30, 1843.





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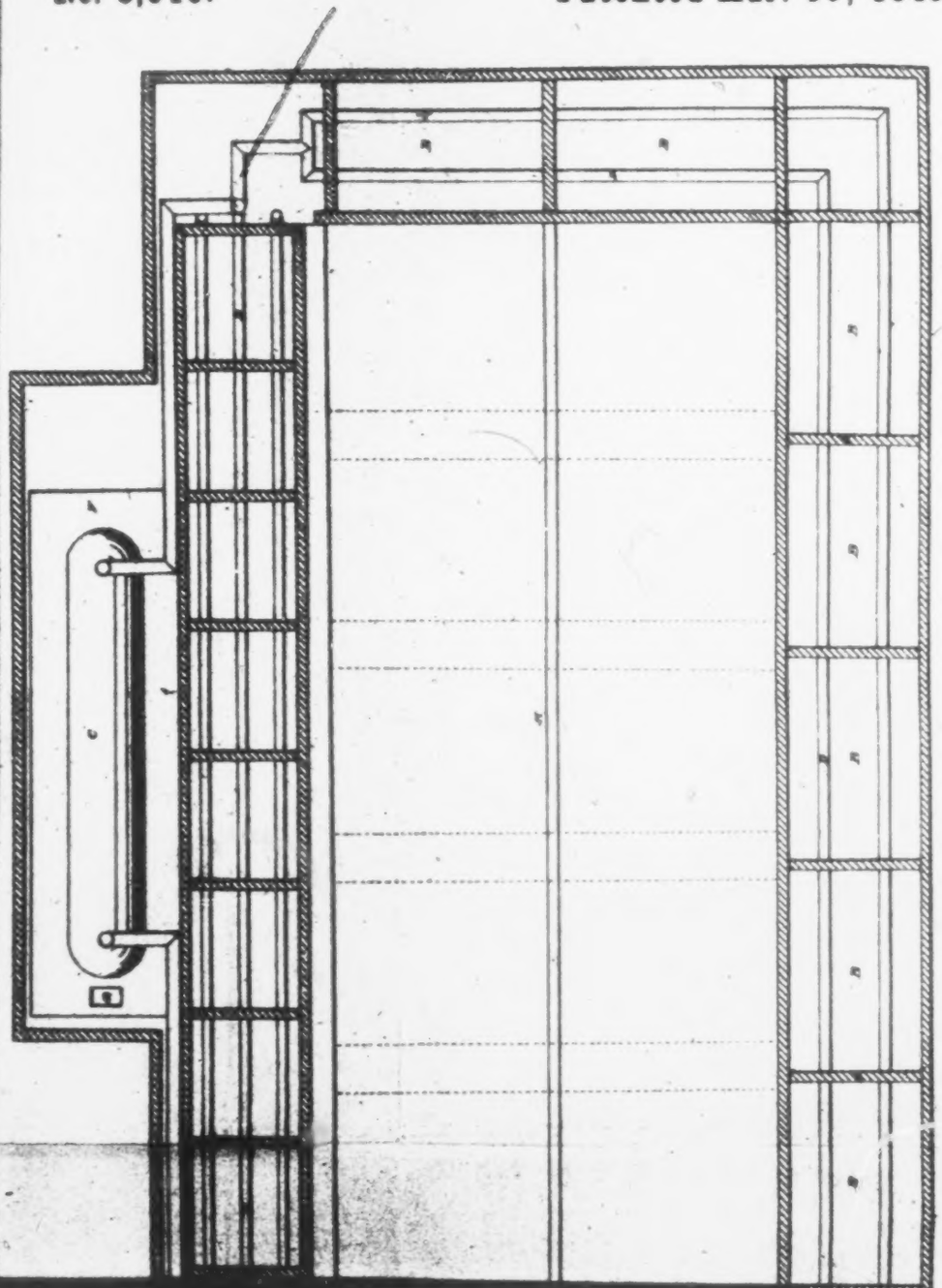
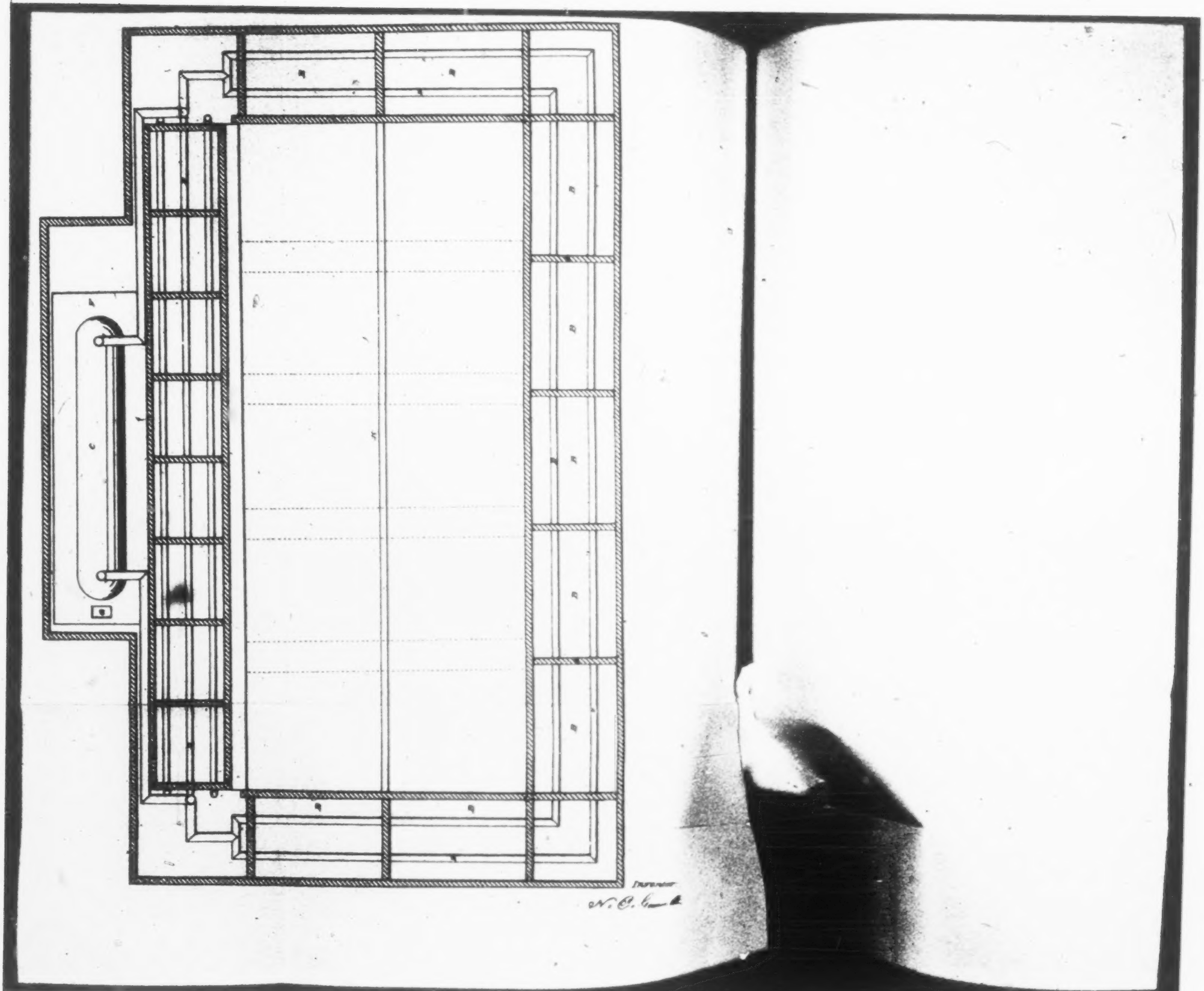
4 Sheets—Sheet 3.

N. E. GUERIN.

ARTIFICIAL METHOD OF REARING CHICKENS.

No. 3,019. Patented Mar. 30, 1843.





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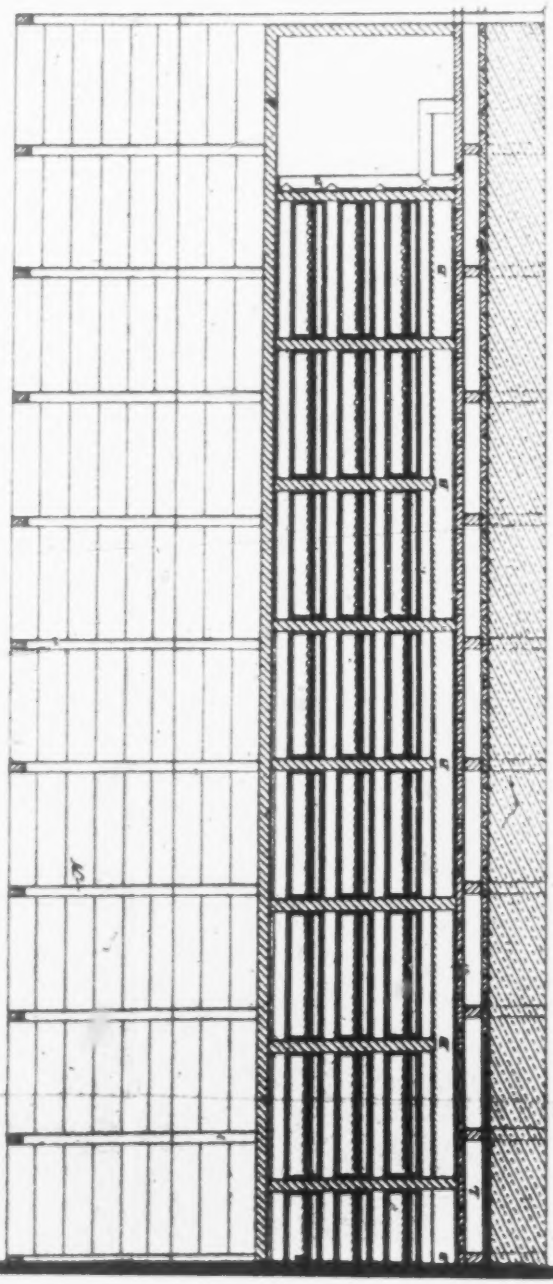
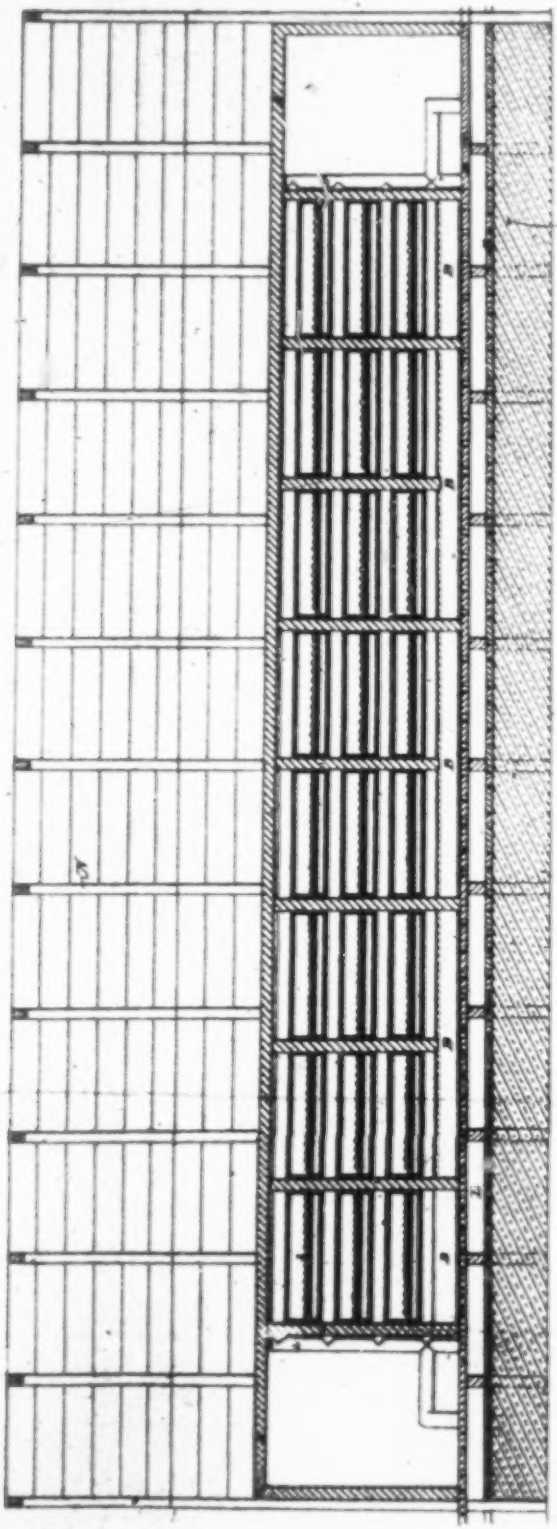
4 Sheets—Sheet 4.

N. E. GUERIN.

ARTIFICIAL METHOD OF REARING CHICKENS.

No. 3,019. Patented Mar. 30. 1843.





Inventor

W. C. [illegible]

UNITED STATES PATENT OFFICE.

NAPOLEON E. GUERIN, OF NEW YORK, N. Y.

HATCHING CHICKENS.

Specification of Letters Patent No. 3,019, dated March 20, 1843.

To all whom it may concern:

Be it known that I, NAPOLEON E. GUERIN, of the city of New York, county and State of New York, have invented an Artificial Method of Rearing Chickens; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in a method of rearing the chickens, after the hatching of the eggs, in an oven as herein described.

Several attempts have been made to hatch eggs by artificial means, and to rear the chickens thus produced. The first of these operations has been successful, but all efforts to rear the chickens have been hitherto fruitless; from the circumstances that those who made the experiments considered the chicken as an animal which was endowed with the faculties of locomotion and of sight, and was also enabled to partake of food from the moment of its birth, and under this impression all that was necessary, or deemed so, was to protect the young birds from the inclemency of the weather, and they were accordingly kept in heated apartments without air. Although the chicken is a bird which is easily reared, since it is able to eat, as it were, at the moment it breaks its shell, still it must be observed that there are also certain requisites which are indispensable to its existence, namely, air and heat judiciously combined. If the attempts above alluded to had been effected by men of observation, residing in the country, they would have doubtless been more successful in their undertakings, as it is extremely probable that they would have observed the method adhered to by the farmer's wife, when by some mishap a newly hatched brood of chickens are deprived of the mother who would so faithfully have watched over them; a method it may be remarked which almost invariably succeeds, do not know why this system is pursued in preference to any other, but that they have seen their mothers follow the same method and meet with similar success. A careful observer will at once perceive in this the way in which the hen's place may be adequately supplied; we always see the feet of the chickens on the ground which keeps them in a cool state, even when guarded by its parent, while the head and upper part of the body are warmed by the heat derived from the hen's body. Whether we ascribe the means employed by the farmer's wife, to chance as to a series of observations, it would be impossible to imitate nature more effectually, since the chicken obtains thus air from below and warmth from above.

Drawing No. 1. Ground plan of a building for the artificial hatching of seven thousand five hundred eggs (7,500) and rearing the chicken during the first month of its existence.—A A A A, hatching oven with eight divisions, for the reception of twenty four drawers, three in each division and placed one above the other, each drawer to contain from three hundred and thirteen to three hundred and fourteen eggs (313 to 314). B B B B, nests for the chickens to sleep in; these are arranged along the whole apartment, the hatching oven being placed on the top of the nests on one side of the apartment. C the steam boiler. D D D D steam pipes for heating the oven and the upper part of the nests. E E E cross pieces to support the steam pipes. F mason work of the boiler. G, fire of the boiler. H stream of water which traverses the length of the building, this is to water the chickens and to keep them clean; it must be constantly renewed. The space between the four ranges of nests is paved with brick; and is used as a yard for the chickens.

Drawing No. 2. Describes the length and height of the oven for hatching.—

To all whom it may concern:

Be it known that I, NAPOLEON E. GUERIN, of the city of New York, county and State of New York, have invented an Artificial Method of Rearing Chickens; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in a method of rearing the chickens, after the hatching of the eggs, in an oven as herein described.

Several attempts have been made to hatch eggs by artificial means, and to rear the chickens thus produced. The first of these operations has been successful, but all efforts to rear the chickens have been hitherto fruitless; from the circumstances that those who made the experiments considered the chicken as an animal which was endowed with the faculties of locomotion and of sight, and was also enabled to partake of food from the moment of its birth, and under this impression all that was necessary, or deemed so, was to protect the young birds from the inclemency of the weather, and they were accordingly kept in heated apartments without air. Although the chicken is a bird which is easily reared, since it is able to eat, as it were, at the moment it breaks its shell, still it must be admitted that there are also certain requisites which are indispensable to its existence, namely, air and heat judiciously combined. If the attempts above alluded to had been effected by men of observation, residing in the country, they would have doubtless been more successful in their undertakings, as it is extremely probable that they would have observed the method adhered to by the farmer's wife, when by some mishap a newly hatched brood of chickens are deprived of the mother who would so faithfully have watched over them; a method it may be remarked which almost invariably succeeds, they are taken by the farmer's wife and placed in a loosely woven basket, in the bottom of which some fresh straw has previously been deposited, the whole being covered with cotton or wool, after which the basket is brought near the fire, where it is left for a fortnight and there receive the heat from it. If you ask these women the motive of this mode of treating the young chicken, they will merely answer that they do not know why this system is pursued in preference to any other, but that they have seen their mothers follow the same method and meet with similar success. A careful observer will at once perceive in this the way in which the hen's place may be adequately supplied; we always see the feet of the chickens on the ground which keeps them in a cool state, even when guarded by its parent, while the head and upper part of the body are warmed by the heat derived from the hen's body. Whether we ascribe the means employed by the farmer's wife, to chance as to a series of observations, it would be impossible to imitate nature more effectually, since the chicken obtains thus air from below and warmth from above.

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Drawing No. II. Describes the length and height of the oven for hatching.—A sectional plan, or view of the oven according to the line O O of the ground plan, so as to admit of being seen in all its parts. B the nests under the oven. D steam pipes. There are nine of these in the oven, and they are placed as shown over each drawer; the heat does not bear directly upon the eggs; a piece of white cotton duck is placed where there is a red painted line in the plan, which absorbs the heat at first and then gives it

out equally upon each drawer. I drawer to contain the eggs; this is divided in two parts by a mat supported by a netting whereby a vacant space is left between the eggs and the bottom of the drawer. Drawing No. III gives an explanation of this. J mat placed upon the bottom of the nests. K bottom of the nests; a number of irregular holes are bored in it, to admit fresh air to the mat where the chickens are. L conduit through which air enters from the exterior. M brick pavement of the conduit above mentioned. N woodwork of the building.

Drawing No. III. The oven for hatching viewed across, and the apartment where the chicken is kept during the first month.—The same letters refer to the same parts as those indicated in the preceding drawings. P valve to admit external air into the conduit already mentioned, and which conveys it under all the nests. It will be noticed that the holes bored in the bottom of the nests are of irregular dimensions; the smaller ones are nearer to the valve and the larger are the most distant from it; the object is to distribute the air equally under the mat. Q front view of one of the sides of the nests. R openings or doors for the ingress and egress of the chicken; these doors are concealed by split pieces of colored cotton or worsted stuffs. This arrangement allows the chicken to pass to and fro freely as it would have done under the care of the hen, by moving her feathers to one side or the other. S front view of the drawers for hatching with openings concealed as the preceding, by slit pieces of colored stuffs on a level corresponding with that of the mat. The dotted line shows the elongation added to each drawer the first day that the chickens are hatched. The black line or mark, on a level with the vacant space left between the mat and the bottom of the drawer, shows the holes which are unstopped on the same day to admit the air. The following explains this: The chicken must not be touched the first day nor even during half the second day that it is hatched. They are to remain in their respective drawers, the elongation or lengthening of the drawers forms a gallery where the young bird may take exercise, passing between the slit colored each side of the nests must correspond to that of the drawers where the chickens were hatched.

Drawing No. IV. General plan of the buildings.—No. 1, room where the chickens are hatched and where they remain during the first month. The letters correspond to the preceding plan and point out the oven, the nests and the spot where the boiler is placed. No. 2, apartment where the chickens are kept during the second and third month; the nests are arranged around the whole room; they are no longer heated by the steam of the boiler but derive the necessary warmth from small furnaces placed at the four angles of the room, by means of which the water is heated for the steam to be conveyed by the conduits. This apartment is larger by half than room No. 1 and is situated to the right of room No. 1. No. 3, a similar apartment situated to the left of No. 1.

The hatching must be conducted so as to obtain a fresh brood as soon as the chickens are a month old. When they have obtained that age they are removed to the next room, in order that the newly hatched ones may occupy their place; for this purpose, sliding doors are placed Z Z and thus divide room No. 1 from Nos. 2 and 3. As soon as they are removed by this simple contrivance, the sliding door is replaced as before and the rooms are again separated. As soon as the chickens of the second hatching have remained one month in room No. 1, the sliding door is again withdrawn, but to pass them in room No. 3. The heat in the nests of No. 2 begins now to be progressively diminished and small perches are placed in the room, for many chickens at that age, prefer to roost rather than to sleep in the nests. The third set of eggs having been hatched, the chickens of No. 2 are by this time three months old, and are therefore of a proper age to be transferred to the yard with resting places; the small perches are then removed to room No. 3, where the chickens are now two months old. The chickens of the third set of eggs are now removed to the nests of those of the fourth set to No. 3, and so on during the year. Thus it will be seen that the chickens are not removed to the yard before they are three months old.

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X X large roosting places, built at the two ends of the building; they are divided lengthwise in two parts and the yard is similarly partitioned off so as to contain chickens of the same age, in order that when the time of selling them arrives, it may be

y to select from any brood. Without this caution it would be impossible to make proper selection.

What I claim as my invention, and desire to secure by Letters Patent, is:

1. The mode of giving and distributing the heat derived from the steam pipes, as well upon the eggs in the hatching oven, as upon the chickens in the nests.

2. The plan of making the colors of the slit pieces of cotton or worsted stuff of the hatching drawers correspond with the sides of the nests in the apartments where similar slit pieces are used.

3. The elongation or lengthening of the drawers, and admitting of air at the moment the birds break their shells.

4. The mode of purifying the air under the nests by the admitting of vital air during the three first months of the chicken's existence and before it can live in open yards without danger.

5. The method of keeping the chickens in two apartments, one on the right and the other on the left side, of the apartment where the hatching takes place and where it may thus be continued without any interruption.

6. Finally, the drawings, the specifications and the model explain and show these new arrangements or dispositions, which have not, to my knowledge, been used or adopted in any of the countries where the artificial hatching and rearing of chickens has been attempted.

N. E. GUERIN.

In witness of—
EDW. BAYES,
LAURENCE KENNEDY.

969

(No Model.)

N. McASLAN.

INCUBATOR.

No. 540,107. Patented May 28, 1895.

Fig 1

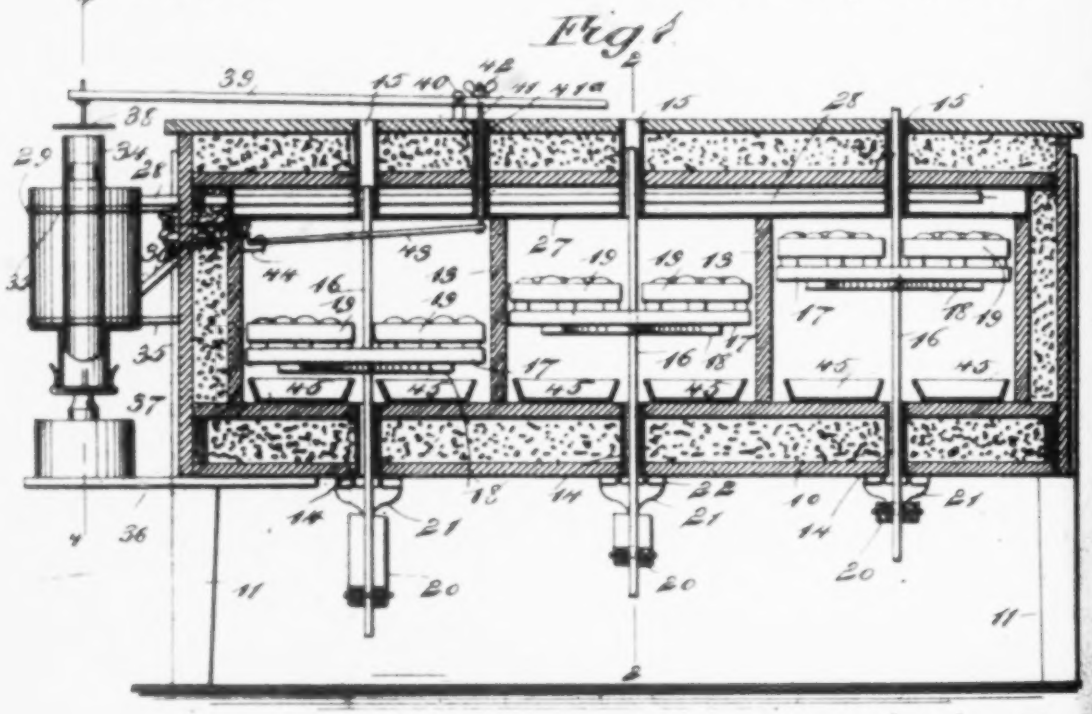


Fig 4

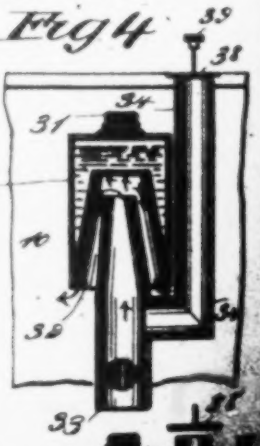


Fig 2

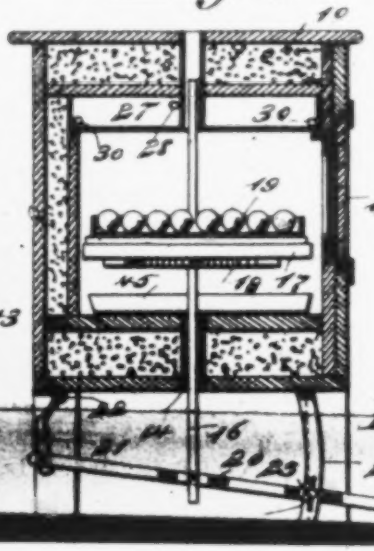


Fig 3.

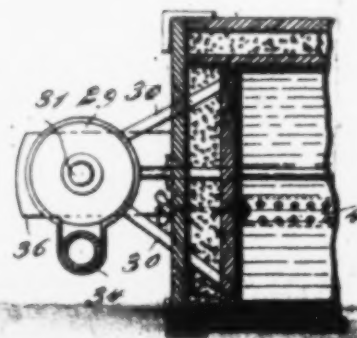


Fig 5

Fig 1.

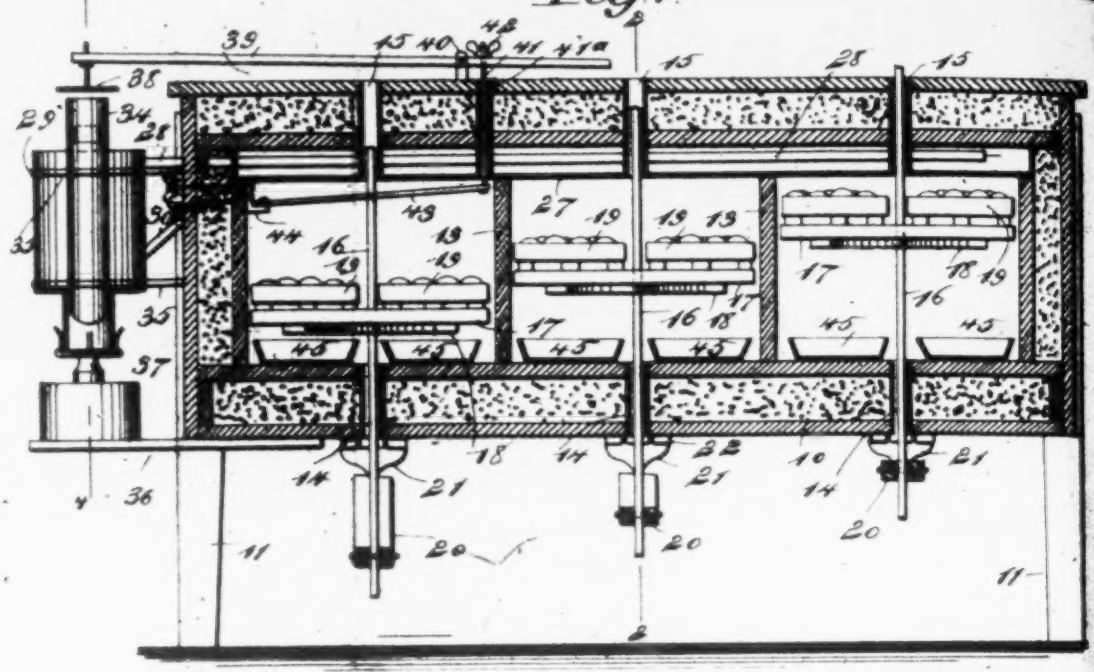


Fig 3.

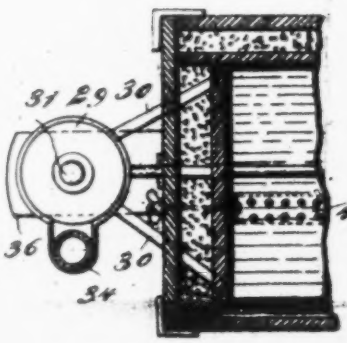


Fig 2

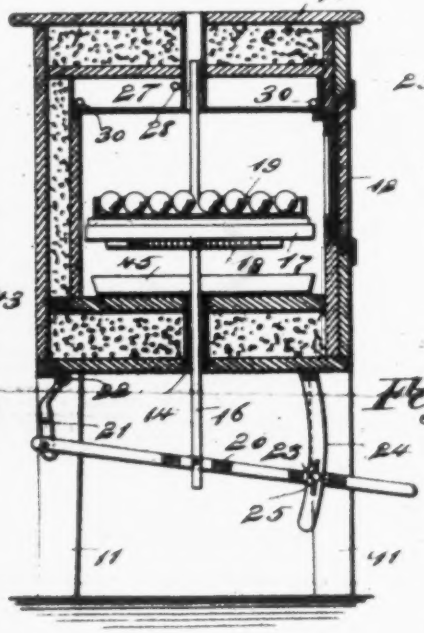


Fig 4

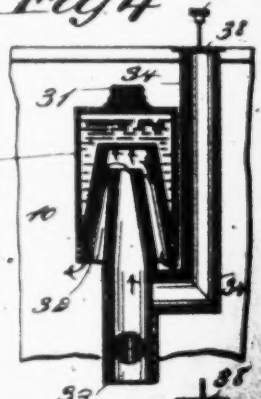
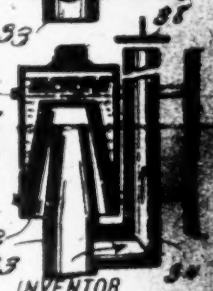


Fig 5



WITNESSES:

F. M. Ardle.

A. Lurcott

INVENTOR

N. McAstan

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

NORMAN McASLAN, OF BRIGGS, NEBRASKA.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 540,107, dated May 28, 1895.

Application filed March 16, 1894. Serial No. 503,881. (No model.)

To all whom it may concern:

Be it known that I, NORMAN MCASLAN, of Briggs, in the county of Douglas and State of Nebraska, have invented a new and Improved Incubator, of which the following is a full, clear, and exact description.

My invention relates to improvements in incubators and in the heating apparatus therefor; and the object of my invention is to produce a cheap and simple incubator which is arranged in a series of compartments adapted to contain eggs to be hatched, which has the egg trays in the several compartments arranged in such a way that the eggs may be subjected to different degrees of heat, according to the length of time which they have been in the incubator, which has a perfect means of ventilation, which has its heating apparatus constructed and arranged so that the temperature may be controlled to a nicety, which has a thermostatic device to regulate the heat, and which also can be easily regulated by hand if desired.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal section of the incubator embodying my invention, showing the egg-trays arranged at different heights therein. Fig. 2 is a vertical cross-section on the line 2 2 of Fig. 1. Fig. 3 is a detail sectional plan of one end of the incubator and of the heater. Fig. 4 is a detail vertical section through the heater and heat-controlling [illegible] on the line 4 4 of Fig. 1, showing the heat-regulating valve closed; and Fig. 5 is a [illegible] section, but with the heat-regulating [illegible].

[illegible] has a body 10, which may be compartments, though any desired number may be used.

The incubator is provided at the bottom with ventilating tubes 14, there being one for each compartment, and at the top with similar tubes 15, which open from the tops of the compartments through the top wall of the incubator, and these tubes 14 and 15, besides providing for the necessary circulation of air, also serve as guides for the rod 16 which move vertically through them and extend below the incubator bottom, each rod being pivoted to an adjusting lever 20 which projects in front of the incubator case, so that it can be conveniently grasped, and at its rear end the lever is pivoted to a link 21 which is hinged to the case bottom, as shown at 22.

The lever 20 is slotted near its front end, as shown at 23, so as to receive the quadrant 24 which is fastened to the case bottom and depends therefrom, and the lever may be held at any necessary height on the quadrant by means of a thumb screw 25 which projects through the quadrant and into the lever. Any other suitable device may be used for holding the lever at the required height.

The portion of the rod 16 which projects through the chamber of the incubator is provided with a platform 17 which is braced on the under side, as shown at 18, and is adapted to support the removable egg trays 19.

The heating device is in the top of the incubator, and it will be seen that by means of the lever mechanism just described, the platforms may be adjusted at any desired height, and thus made to subject the eggs to the required heat. By having the several compartments and the adjusting devices for each of them, eggs may be introduced to the incubator at different times.

The incubator has, in the top, a heating tank 27 adapted to contain hot water or steam, this being introduced to the tank through a pipe 28 which extends longitudinally into the

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The incubator has a body 10, which may be of any approved construction, having the customary double walls and being preferably mounted on legs 11.

The incubator has on its front side the customary double doors 12 and it is divided by the transverse partitions 13 into a series of compartments adapted to contain the eggs to be hatched, the drawings showing three such compartments, though any desired number may be used.

The incubator is provided at the bottom with ventilating tubes 14, there being one for each compartment, and at the top with similar tubes 15, which open from the tops of the compartments through the top wall of the incubator, and these tubes 14 and 15, besides providing for the necessary circulation of air, also serve as guides for the rod 16 which move vertically through them and extend below the incubator bottom, each rod being pivoted to an adjusting lever 20 which projects in front of the incubator case, so that it can be conveniently grasped, and at its rear end the lever is pivoted to a link 21 which is hinged to the case bottom, as shown at 22.

The lever 20 is slotted near its front end, as shown at 23, so as to receive the quadrant 24 which is fastened to the case bottom and depends therefrom, and the lever may be held at any necessary height on the quadrant by means of a thumb screw 25 which projects through the quadrant and into the lever. Any other suitable device may be used for holding the lever at the required height.

The portion of the rod 16 which projects through the chamber of the incubator is provided with a platform 17 which is braced on the under side, as shown at 18, and is adapted to support the removable egg trays 19.

The heating device is in the top of the incubator, and it will be seen that by means of the lever mechanism just described, the platforms may be adjusted at any desired height, and thus made to subject the eggs to the required heat. By having the several compartments and the adjusting devices for each of them, eggs may be introduced to the incubator at different times.

The incubator has, in the top, a heating tank 27 adapted to contain hot water or steam, this being introduced to the tank through a pipe 28 which extends longitudinally into the tank and throughout the greater part of its length, the pipe connecting at its outer end with a heater 29 which is supported on one end of the incubator, as described presently. The return of the circulation is effected through the pipes 30 which extend from one end of the tank 27 to the heater 29, the pipes entering the heater near its lower end.

The heater is provided with a removable cap 31 on top, to enable it to be conveniently filled, and the bottom of the heater is recessed or concaved, as shown at 32 in Fig. 4, so that it may present a large heating surface to the heat which rises from the chimney flue 33, which flue projects well up into the recess in the heater bottom. The flue 33 has a side flue 34 which projects upward above the heater top so as to provide for the necessary draft. The heater flues are held in suitable brackets 35 which are fastened to the end of the incubator.

The heater is arranged above a shelf 36 which is also fastened to the incubator, and on this shelf is adapted to rest a lamp 37, the lamp being arranged just beneath the flue 33 so that the whole heat from the chimney will pass upward through the flue 33 and be delivered against the heater bottom, as shown in Fig. 4.

Above the side flue 34 is a valve 38, which is adapted to close the top of said flue, and it will be seen that when the valve is closed, the effective heat will all be delivered beneath the heater so that the water in it will be quickly and efficiently heated, but if the water becomes too hot, the valve 38 is raised and this makes a side draft through the flue 34 which draws the hot air to one side, as illustrated in Fig. 5, and also draws cool air up through the recess 32 of the heater bottom and down through the upper part of the flue 33, and in this way the heater and its contents are quickly cooled to the necessary extent. I have shown a thermostat for operating the valve, this thermostatic arrangement being preferably constructed as follows:

The valve 38 is hung on the free end of the lever 39 which is fulcrumed on the top of the incubator, as shown at 40, and the lever is, behind its fulcrum, connected by a rod 41 which is adjustable, by means of a thumb nut 42, with a thermostat 43 which is arranged in the incubator, the rod 41 extending downward through a suitable tube 41^a, as shown clearly in Fig. 1. The thermostat is secured to a bracket 44 and comprises two strips of metal, which strips are bound together and are of different degrees of expansibility, so that when the temperature grows relatively low, the thermostat curls upward so as to tilt the lever 39 and close the valve 38, thus utilizing the greatest amount of heat for heating the water in the heater, and when the temperature gets relatively high, the thermostat curls down, thus opening the valve and permitting the heat to escape in the manner already indicated. The cooler air is drawn into the incubator through the tubes 14, while the hot air escapes through the tubes 15 which may be provided with covers to assist in controlling the heat. In the lower part of the incubator are placed pans 45 containing water, the vapor of which gives the necessary moisture to the atmosphere and eggs.

It will be seen that the heating apparatus is very simple, that the incubator may be quickly built, that the trays may be regulated so as to be just the required distance from the heating tank and consequently heated to the necessary extent, and that as a result the incubator works very nicely.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In an incubator, the combination with a case having in its top and bottom an opening leading from the egg chamber, of a vertical rod working in the said openings, the lower end of the rod extending to the outside of the case, a platform secured upon the rod in the egg chamber, a link pivoted to the bottom of the case, a lever to which the rod is pivoted, said lever being pivoted to the link and having its front end slotted, a quadrant secured to the case and projecting through the slot of the said lever, and means for clamping the lever to the quadrant, substantially as described.

NORMAN McASLAN.

Witnesses:
SAMUEL REYNOLDS,
CHARLES FREDERICK SCHRAM.

No. 691,837. Patented Jan. 28, 1902.

V. S. BELL.

INCUBATOR.

(Application filed Mar. 26, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

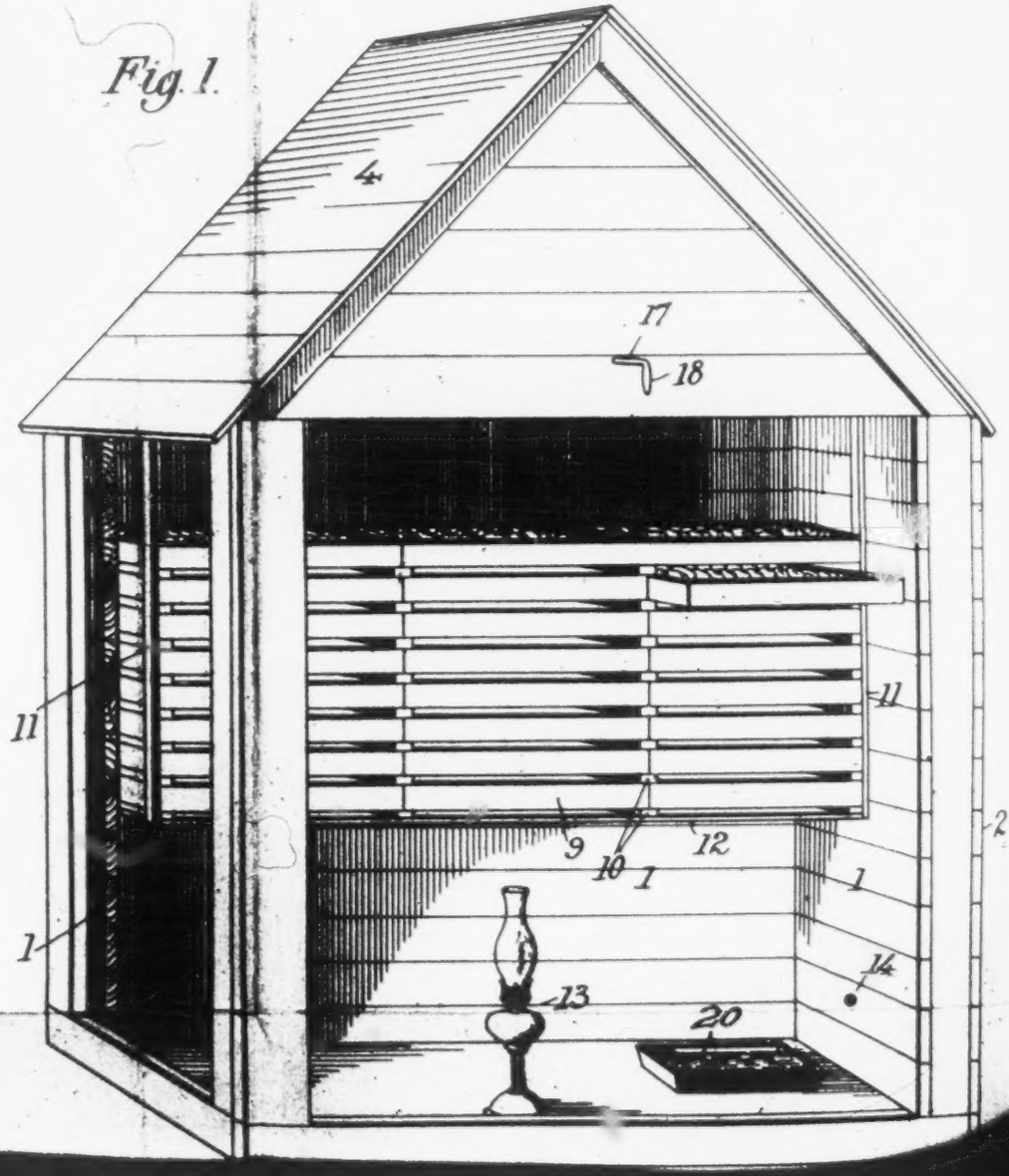
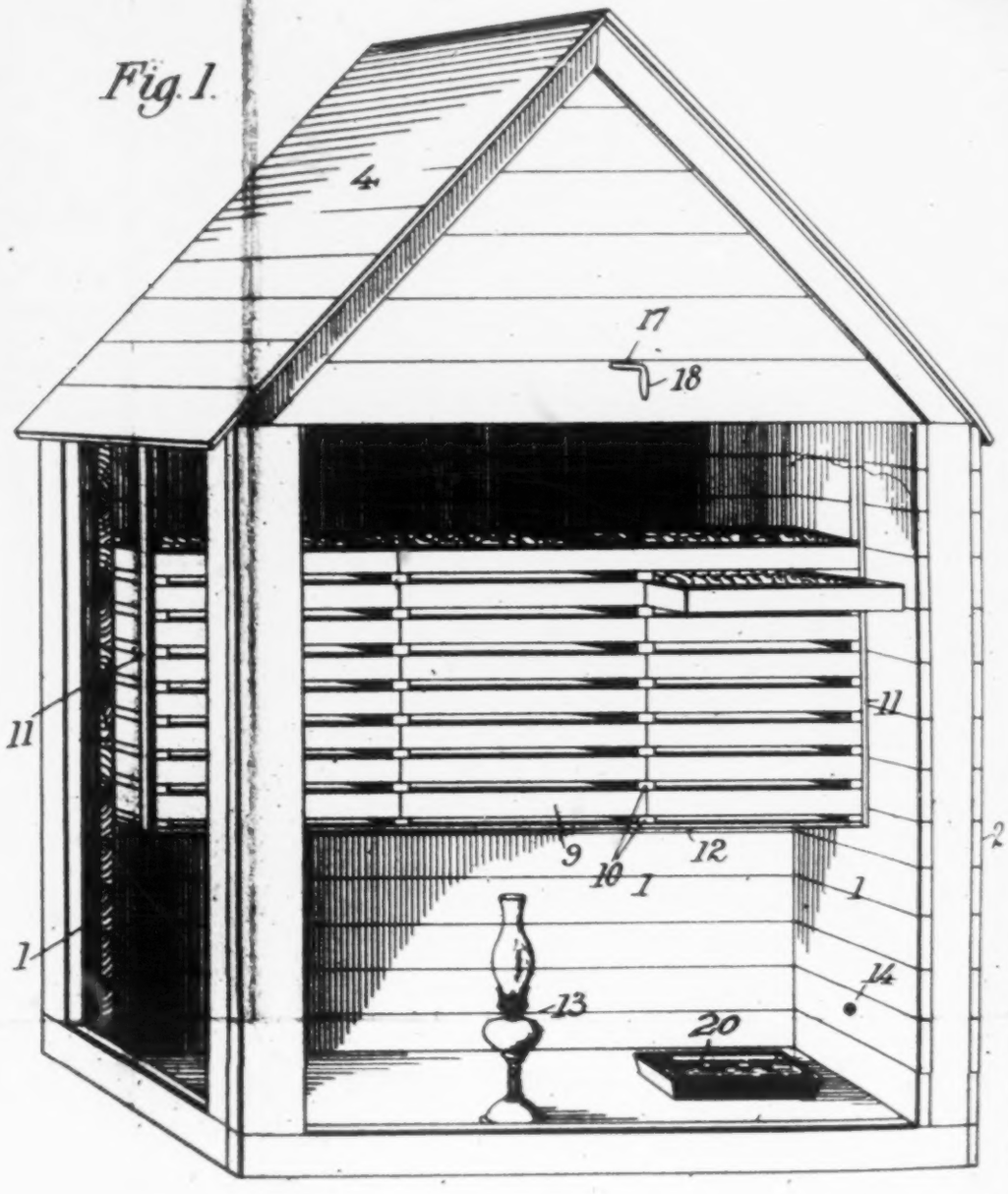


Fig. 1.



Witnesses:
J. E. Bowen
Kate Shepard

V. S. Bell Inventor
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Attorneys

973

No. 691,837. Patented Jan. 28, 1902.

V. S. BELL.

INCUBATOR.

(Application filed Mar. 26, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

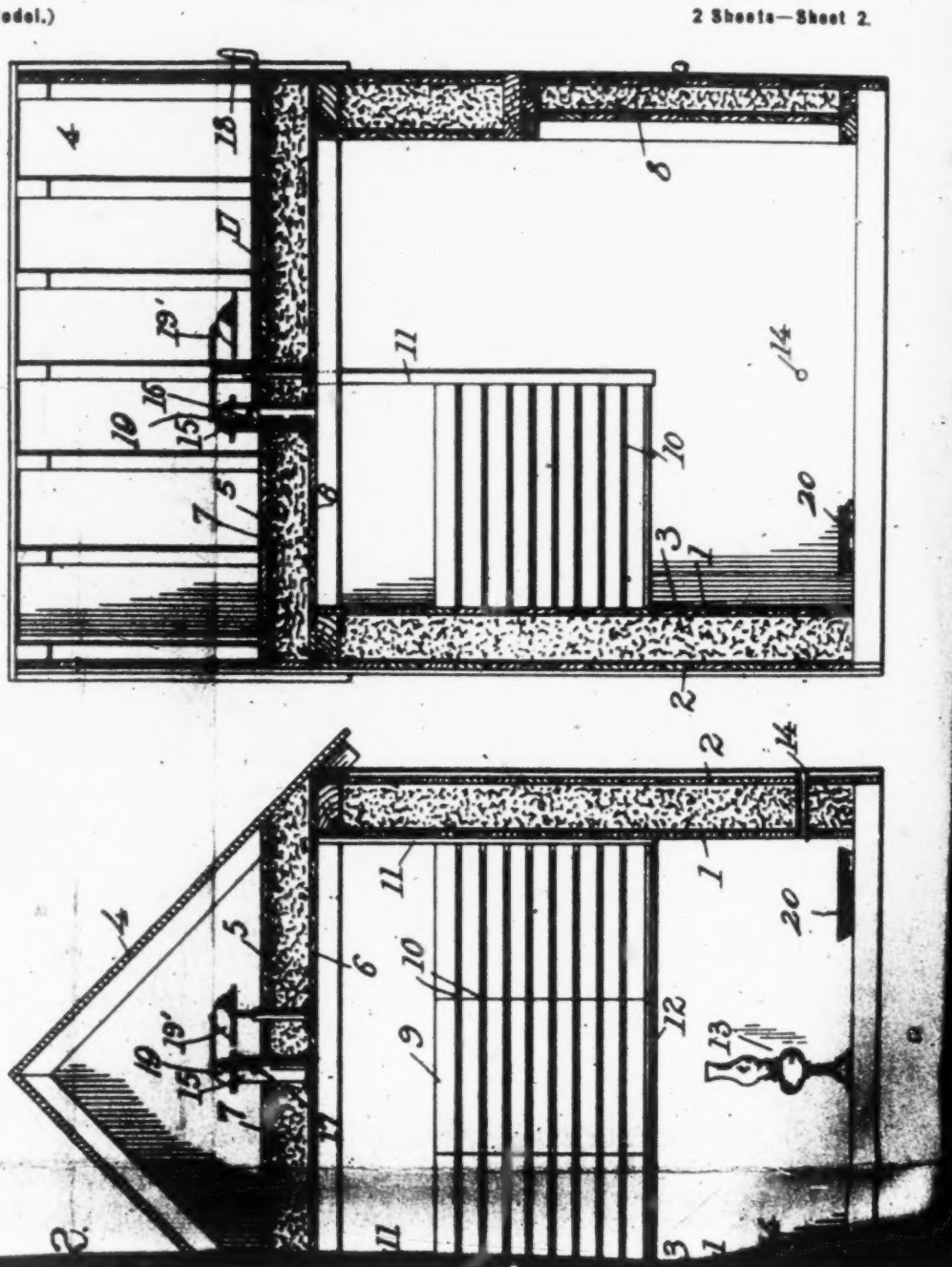

Fig. 3.

Fig. 2.

Witnesses:
J. F. Bowen
Hyde Shepard

V. S. Bell Inventor
by C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

VIRGIL S. BELL, OF HAYESVILLE, IOWA.

INCUBATOR.

SPECIFICATION forming part of Letters Patent No. 691,837, dated January 28, 1902.

Application filed March 28, 1901. Serial No. 53,314. (No model.)

To all whom it may concern:

Be it known that I, VIRGIL S. BELL, a citizen of the United States, residing at Hayesville, in the county of Keokuk and State of Iowa, have invented a new and useful Incubator, of which the following is a specification.

This invention relates to incubators, and has for its object to provide an improved device of this character which is of great capacity, so that an attendant may have access to the interior thereof for examining the eggs and for any other purpose without exposing the eggs to the outside temperature. It is furthermore designed to provide for effectively ventilating the interior of the device, so as to preserve a proper temperature for the unhatched eggs and also for the recently-hatched chickens, and at the same time prevent the incubator from being chilled too rapidly.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claim without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of the improved incubator, the front and one side being removed to show the interior thereof. Fig. 2 is a transverse sectional view [illegible]. Fig. 3 is a sectional view taken at [illegible] Fig. 2.

entirely housed by earth-filled walls. Access is had to the interior of the shed through a suitable dirt-filled door 8, (shown in Fig. 3 of the drawings,) whereby an attendant may enter the building to inspect the same without exposing the eggs to the outer air for any considerable time.

It is designed to support the eggs in trays 9, arranged in groups, the trays of each group being disposed one above the other, so that the ascending heat may affect all of the eggs. For the support of the trays there is provided a plurality of cleats or bars 10, which are arranged in vertical series and project outwardly from one side of the shed, to which they are connected in any suitable manner. It will be understood that the series of cleats are arranged at regular intervals, so as to slidably support the egg-trays, and the intermediate cleats are wide enough to support the adjacent edges of opposite trays; also, the outer ends of the opposite end series are braced by a hanger 11, pendent from the ceiling of the building, and the lowermost cleats are connected by a cross-bar 12, thus forming a strong and convenient frame for the support of the egg-trays. By this arrangement there is a space between the trays equal to the thickness of a cleat, and these openings or spaces will permit the chickens as they are hatched to escape from the trays and reach the floor of the shed; also, the cleats which support the trays permit the latter to be readily drawn outwardly or slid inwardly to remove or replace them.

The interior of the shed or building is heated by means of a lamp 13, placed upon the floor of the shed, and fresh air is supplied through pipes or inlet-passages 14

INCUBATOR.

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In the drawings, Figure 1 is a perspective view of the improved incubator, the front and one side being removed to show the interior thereof. Fig. 2 is a transverse sectional view thereof. Fig. 3 is a sectional view taken at right angles to Fig. 2.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

In carrying out the invention there is built a house or shed having inner and outer walls 1 and 2, that are separated a suitable distance, preferably six inches, and this intervening space is filled with loose earth 3 to form a heat-non-conducting filling, which will maintain the interior air moist. The building is also provided with a peaked roof 4, the ceiling having top and bottom walls 5 and 6, between which is held the filling of earth 7, so that the interior of the building may be entirely housed by earth-filled walls. Access is had to the interior of the shed through a suitable dirt-filled door 8, (shown in Fig. 3 of the drawings,) whereby an attendant may enter the building to inspect the same without exposing the eggs to the outer air for any considerable time.

It is designed to support the eggs in trays 9, arranged in groups, the trays of each group being disposed one above the other, so that the ascending heat may affect all of the eggs. For the support of the trays there is provided a plurality of cleats or bars 10, which are arranged in vertical series and project outwardly from one side of the shed, to which they are connected in any suitable manner. It will be understood that the series of cleats are arranged at regular intervals, so as to slidably support the egg-trays, and the intermediate cleats are wide enough to support the adjacent edges of opposite trays; also, the outer ends of the opposite end series are braced by a hanger 11, pendent from the ceiling of the building, and the lowermost cleats are connected by a cross-bar 12, thus forming a strong and convenient frame for the support of the egg-trays. By this arrangement there is a space between the trays equal to the thickness of a cleat, and these openings or spaces will permit the chickens as they are hatched to escape from the trays and reach the floor of the shed; also, the cleats which support the trays permit the latter to be readily drawn outwardly or slid inwardly to remove or replace them.

The interior of the shed or building is heated by means of a lamp 13, placed upon the floor of the shed, and fresh air is supplied through pipes or inlet-passages 14, formed through the filled walls and adjacent to the bottom of the building, so that the incoming air may become properly heated before rising into contact with the eggs, which are supported at a suitable distance above the inlet-openings.

For ventilating the shed there is provided a hot-air-escape pipe or passage 15, extending through the ceiling of the shed and forming a communication between the interior thereof and the air-space above the ceiling. The peaked roof and the single extensions of the front and rear walls form an upper com-

partment and are provided with sufficient cracks to permit the hot air to escape from this upper chamber or compartment, which thereby partially confines the escaping hot air, causing the same to escape slowly and preventing the lower egg-receiving compartment from becoming suddenly chilled. A damper 16 is located within the escape-pipe between the ends thereof and at a point above the double ceiling, and it is operated by a rod or stem 17, located within the upper chamber or compartment and extending through the front wall of the same and provided with an exteriorly-arranged handle for enabling the damper to be readily controlled. The damper is normally open to permit the free upward passage of the heated air through the ventilating-passage; but the latter is normally closed at a point above the damper by means of an outer terminal valve 19, which is controlled by a thermostat 19', adapted to open the valve when the air in the incubator has reached a predetermined degree of temperature. The thermostat may be of any desired construction, and the purpose of the two valves and their particular arrangement is to permit the inner valve to be closed should it be desired to cut off the escape of the hot air when the outer valve has been opened by the thermostat.

The incubator is an outhouse or building, and when it is not in use as an incubator it may be employed for a variety of other purposes, such as a storehouse for various articles.

By reason of the fact that the loose earth is confined between opposite walls it will retain its moisture, and additional moisture may be supplied by a water-pan 20, placed upon the floor.

It will be understood that the filling between the inner and outer walls of the incubator may be sawdust, cinders, or other suitable material, and instead of an ordinary illuminating-lamp an oil or gasolene stove may be used, and, in fact, any preferred or particularly-adapted means of heating may be employed.

What is claimed is—

An incubator comprising a housing, a double-walled lower compartment provided with a double ceiling, said housing being also provided with an upper compartment having single walls and provided with cracks or apertures forming escape-openings for hot air, whereby the said upper compartment is adapted to confine partially the escaping hot air and cause the same to escape slowly to prevent the lower compartment from becoming chilled too quickly, a packing of heat-non-conducting material arranged at the walls and ceiling, egg-trays located in the lower compartment, a heat-generating device located below the trays, a short hot-air escape extending through the ceiling and permitting the hot air to pass from the lower compartment and terminating therein, a valve located at the upper end of the hot-air escape and provided with a thermostat to open it automatically, and a damper located in the hot-air escape at a point between the ceiling and the said valve and provided with means for operating it from the exterior to enable the escape of air to be cut off when the upper valve is open, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

VIRGIL S. BELL.

Witnesses:
EDWARD DUREE,
A. C. JACOBS.

976

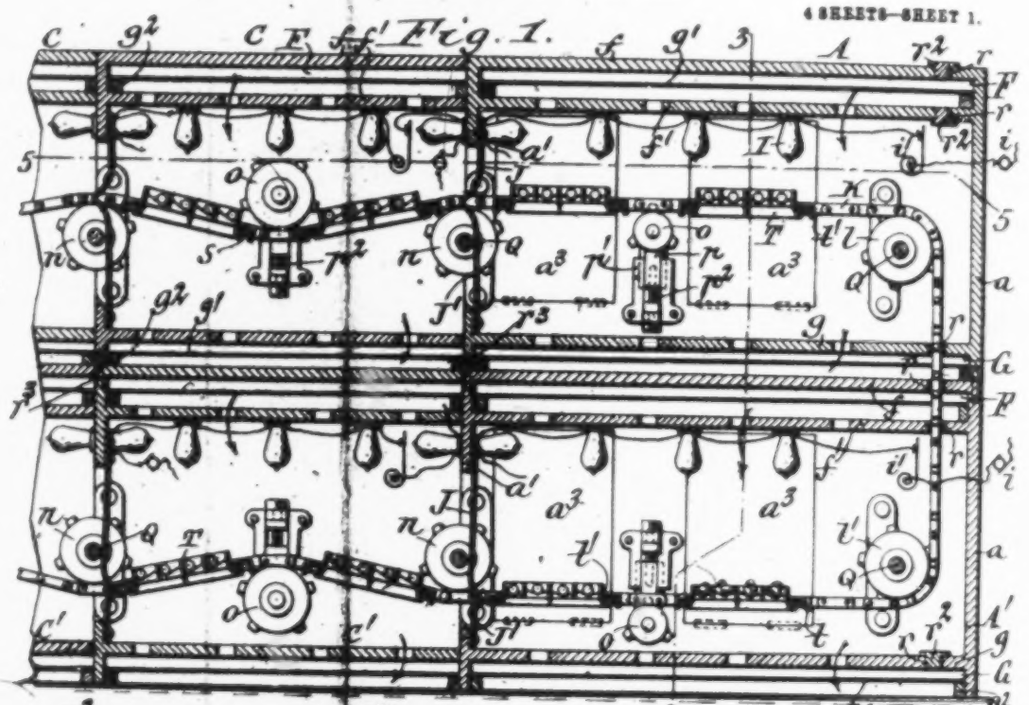
No. 798,697. PATENTED SEPT. 5, 1905.

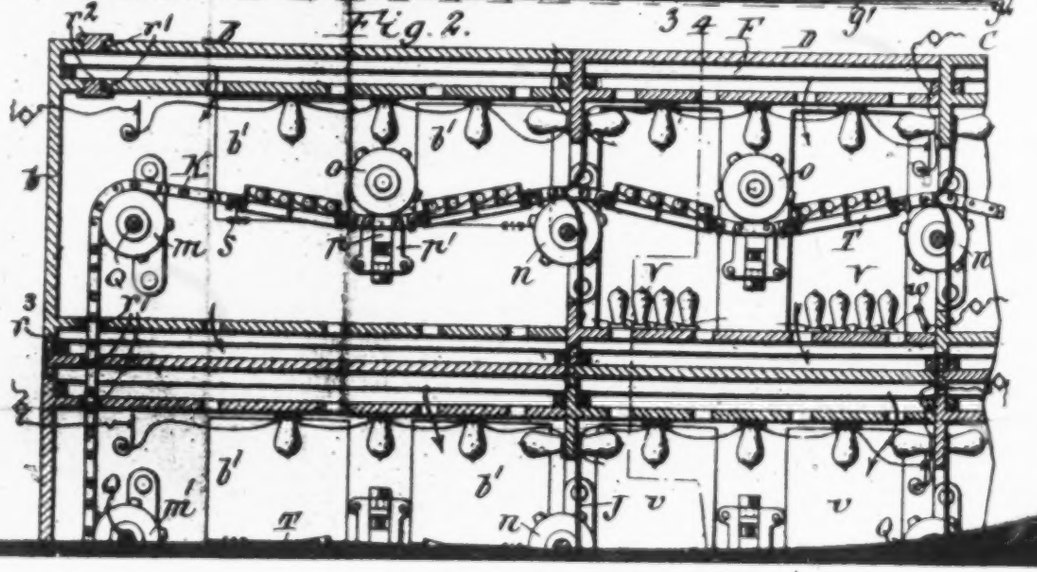
F. C. PERKINS.

INCUBATOR.

APPLICATION FILED DEC. 31, 1904.

4 SHEETS—SHEET 1.





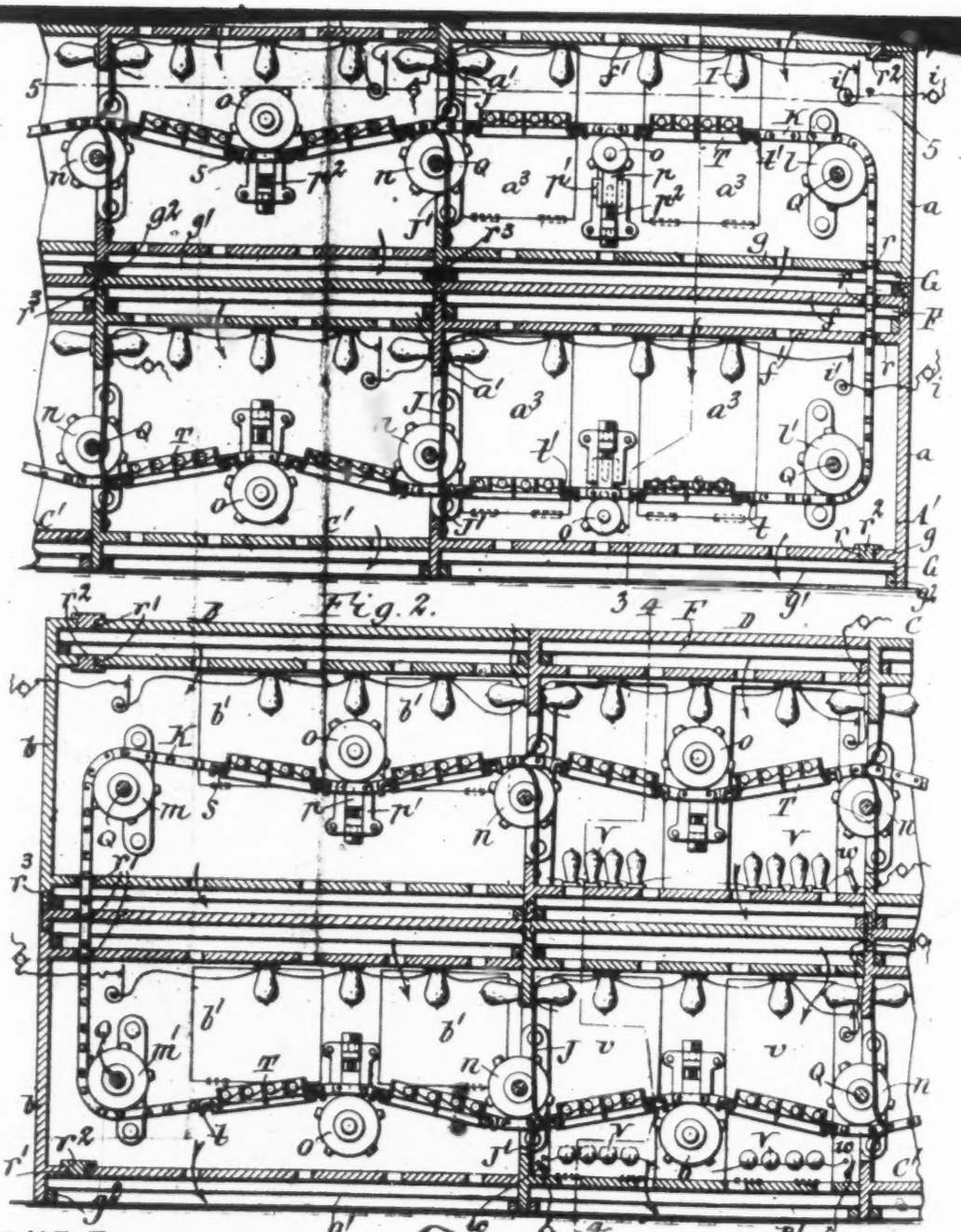


Fig. 2.

Witnesses:
Louis W. Gratz
Robert Weitzmeyer

Frank C. Perkins, Inventor
By Geyer & Popp
Attorneys.

977

No. 798,697. PATENTED SEPT. 5, 1905.

F. C. PERKINS.

INCUBATOR.

APPLICATION FILED DEC. 31, 1904.

4 SHEETS—SHEET 1.

Fig. 3.

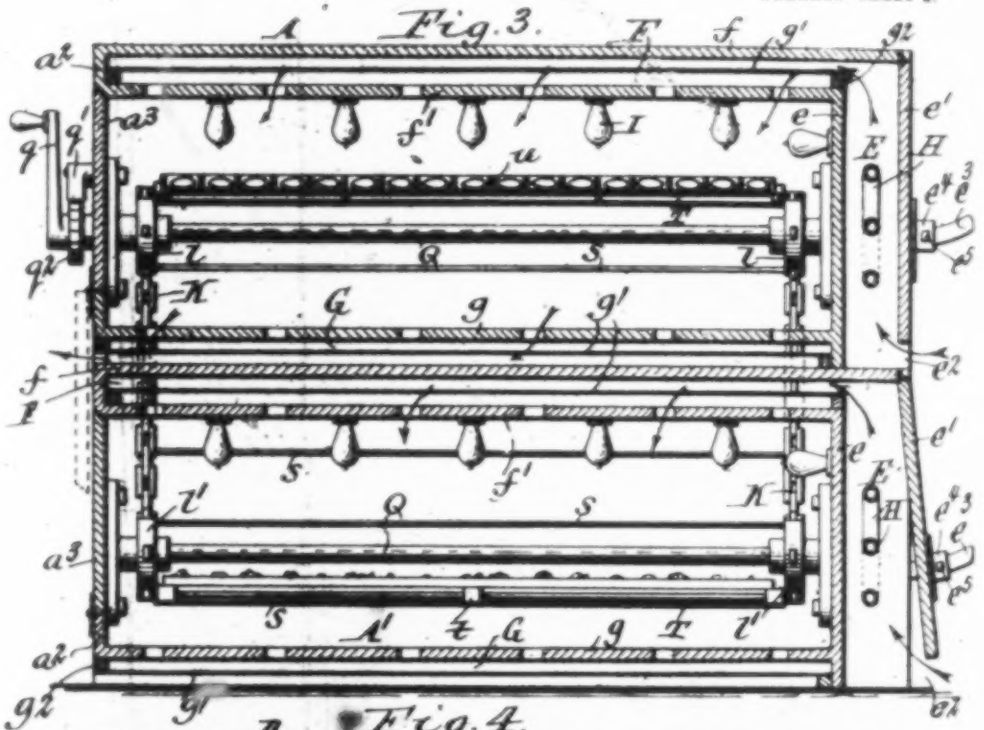
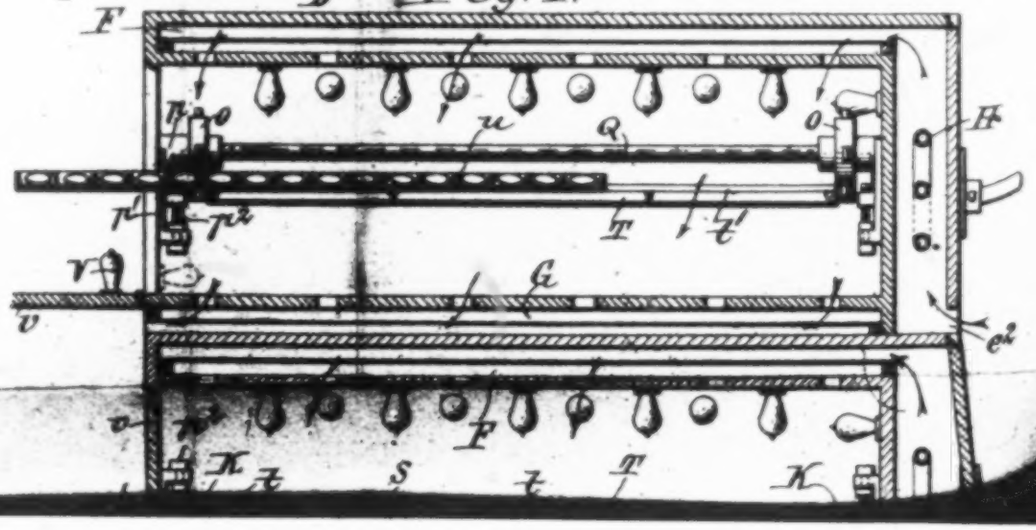
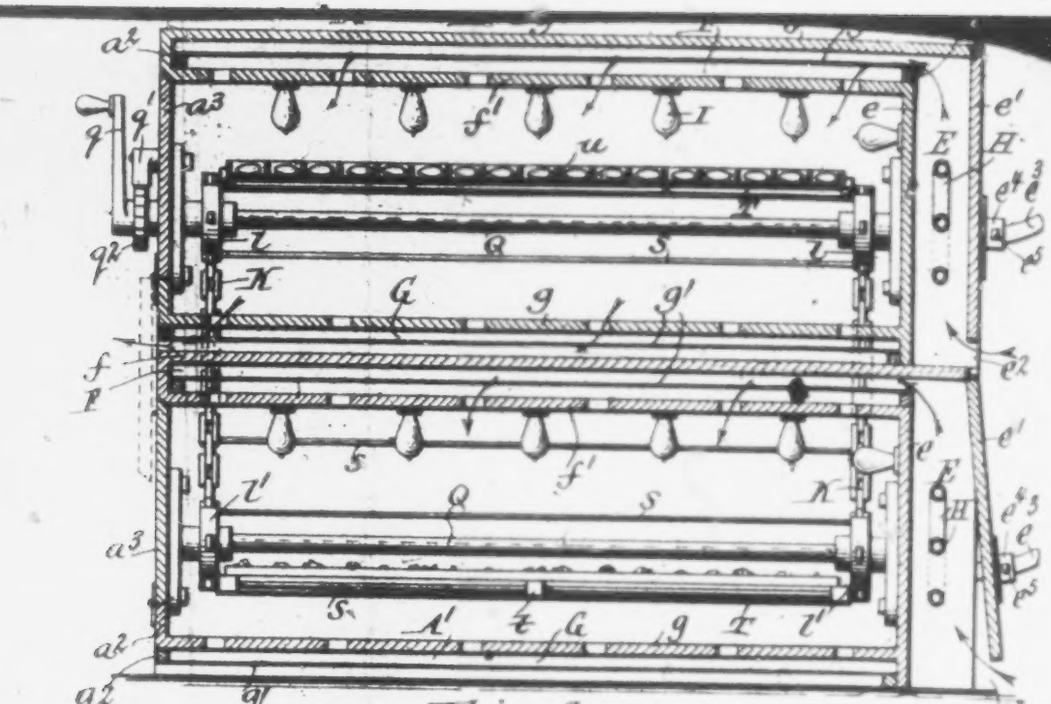
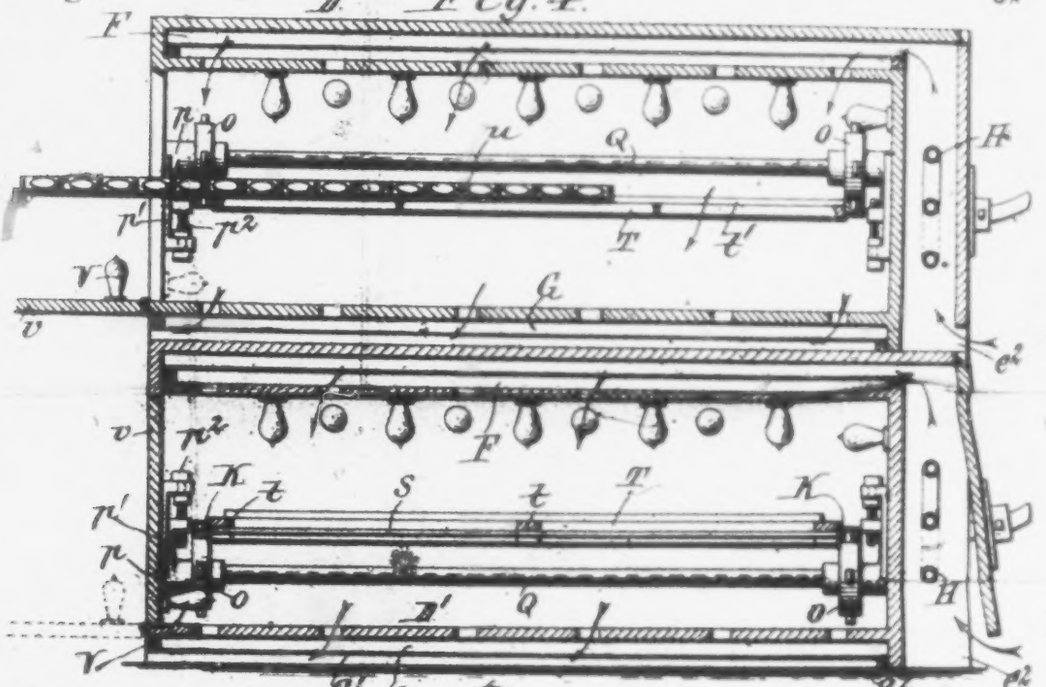


Fig. 4.





D. Fig. 4.



Witnesses:
Louis W. Gast
Robert Wetterauer

Frank C. Perkins, Inventor
By Geyer & Popp
Attorneys.

No. 798,697. PATENTED SEPT. 5, 1905.

F. C. PERKINS.

INCUBATOR.

APPLICATION FILED DEC. 31, 1904.

4 SHEETS—SHEET 3.

Fig. 5.

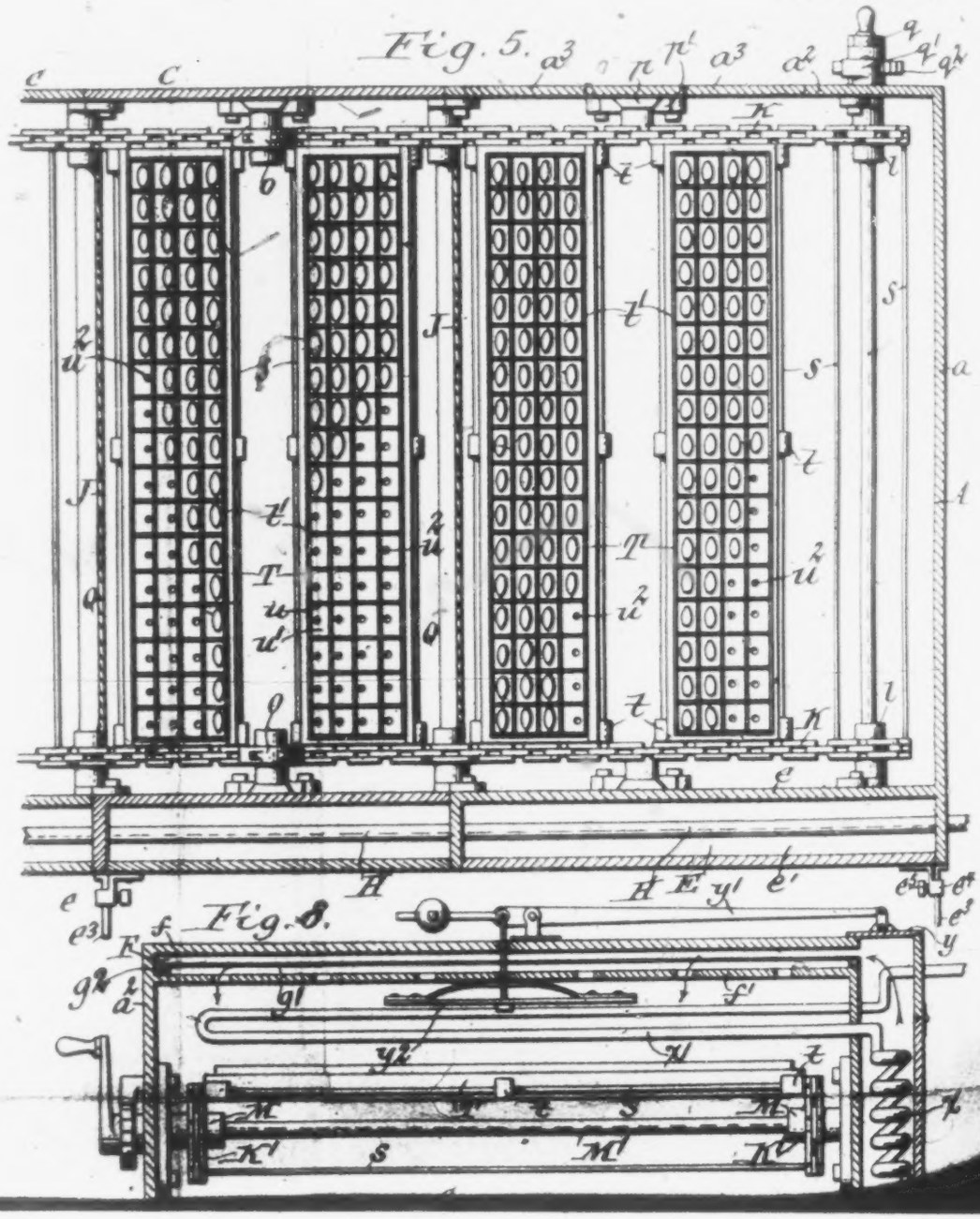


Fig. 8.

APPLICATION FILED DEC. 21, 1904.

4 SHEETS—SHEET 3.

Fig. 5.

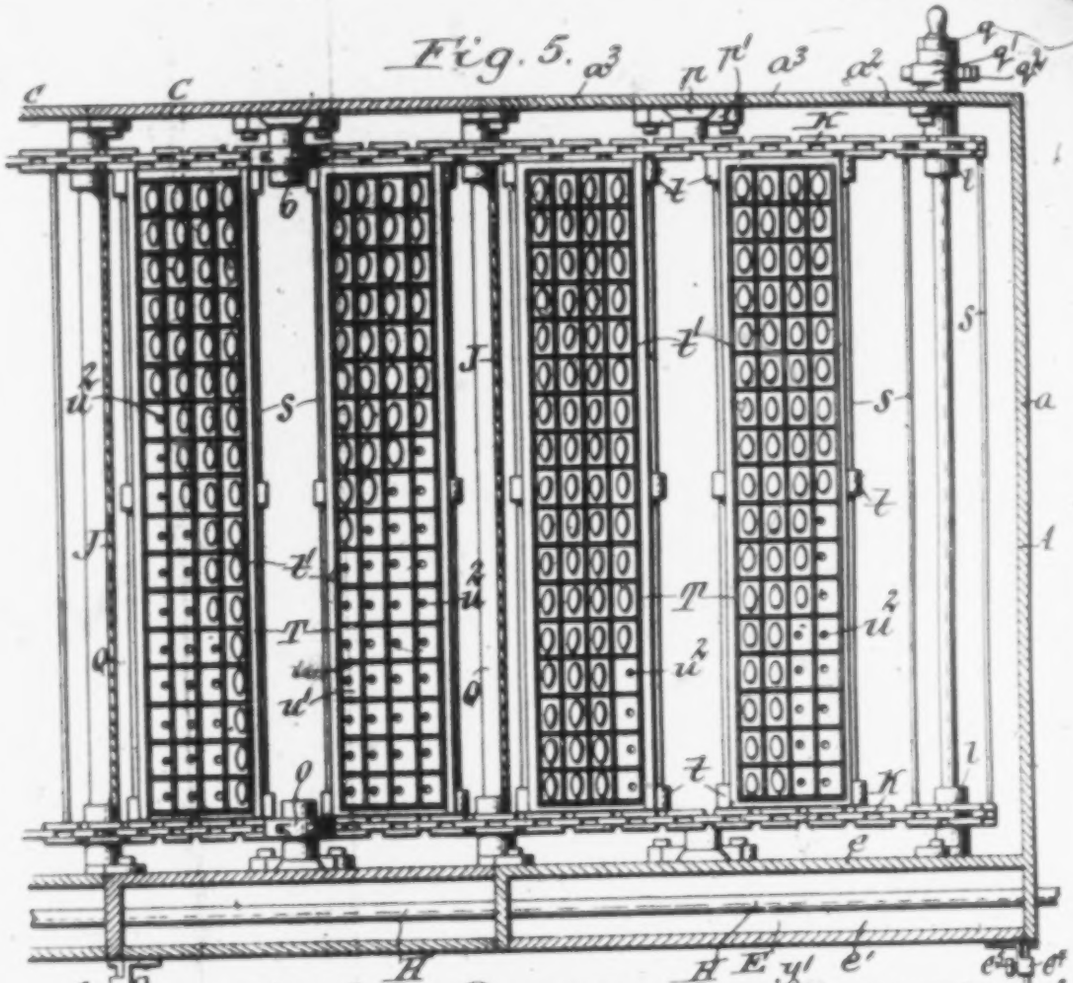


Fig. 8.

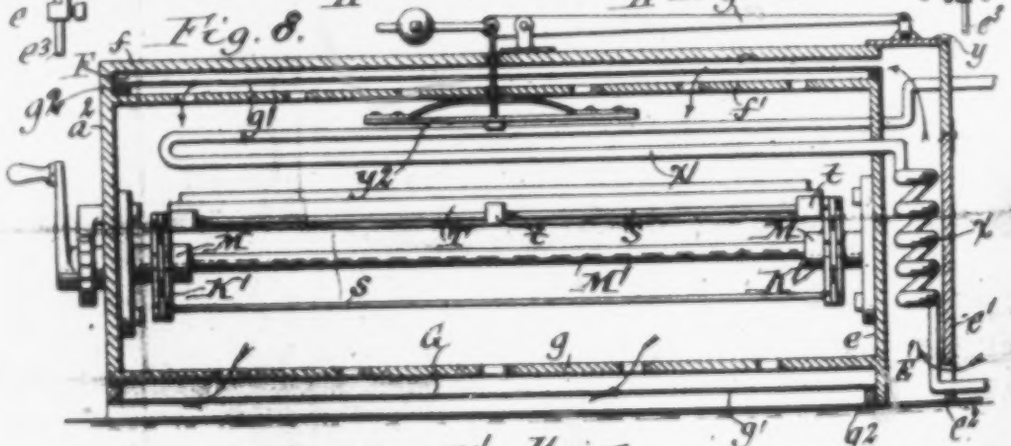



Fig. 7.

Witnesses:
Louis W. Gratz
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Inventor
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Attorneys

979

No. 798,697. PATENTED SEPT. 5, 1905.

F. C. PERKINS.

INCUBATOR.

APPLICATION FILED DEC. 31, 1904.

4 SHEETS—SHEET 4.

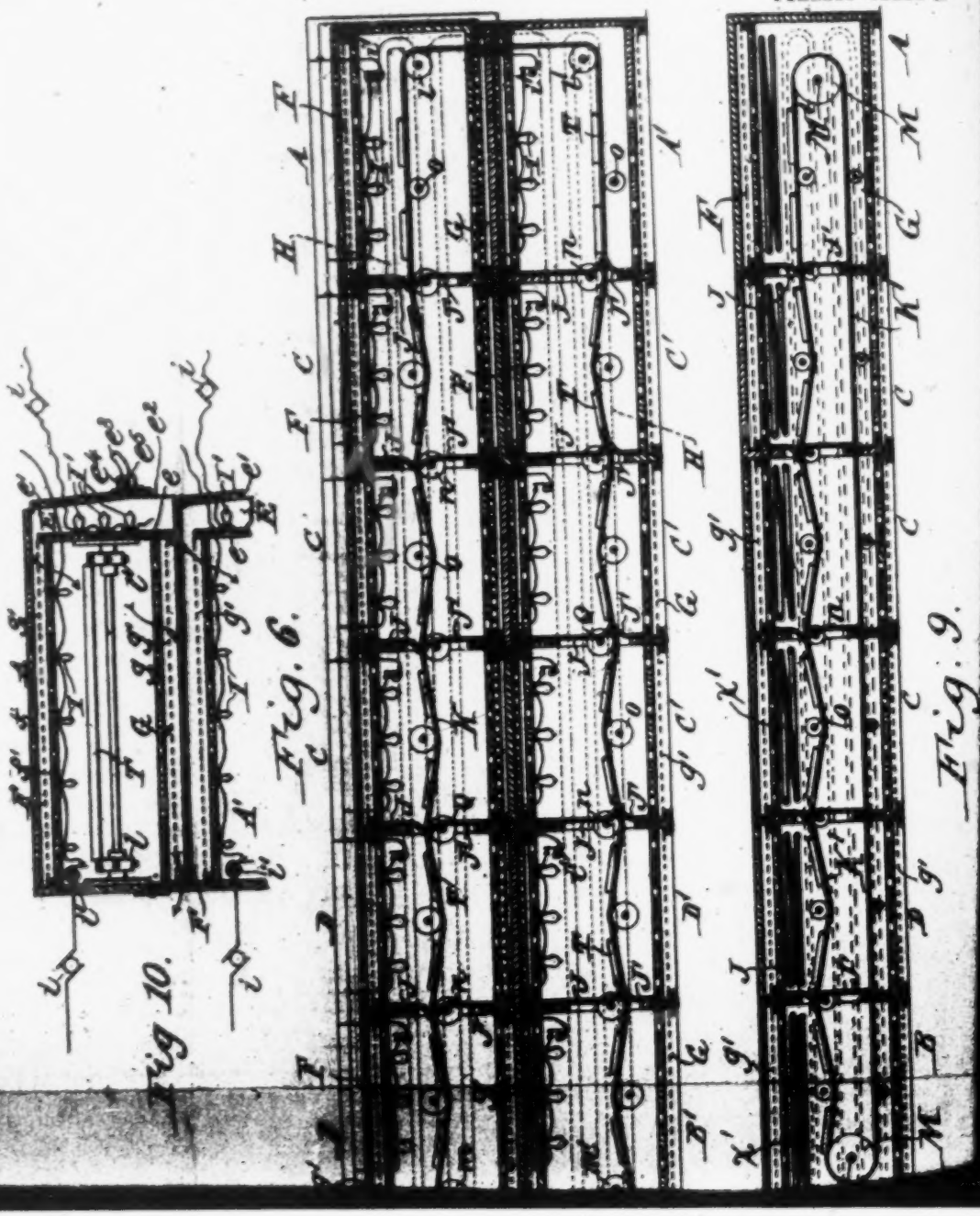
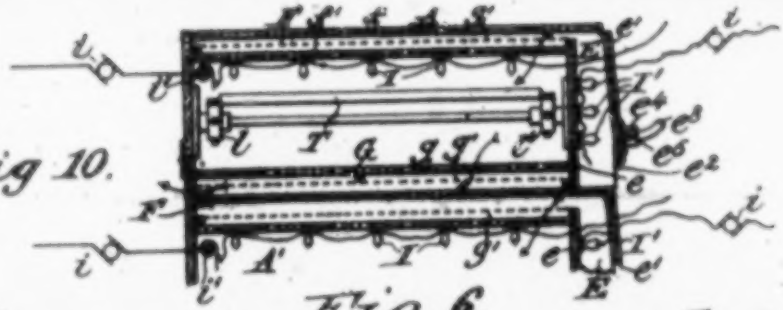


Fig. 10.

Fig. 6.

Fig. 9.

Witnesses:

Fig 10.

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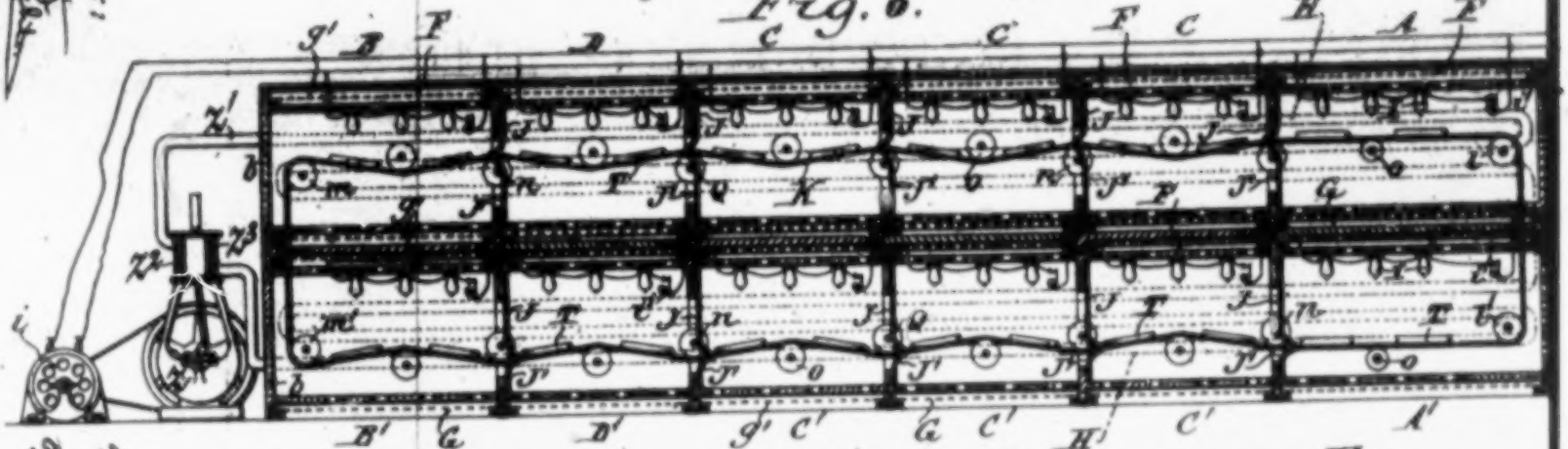
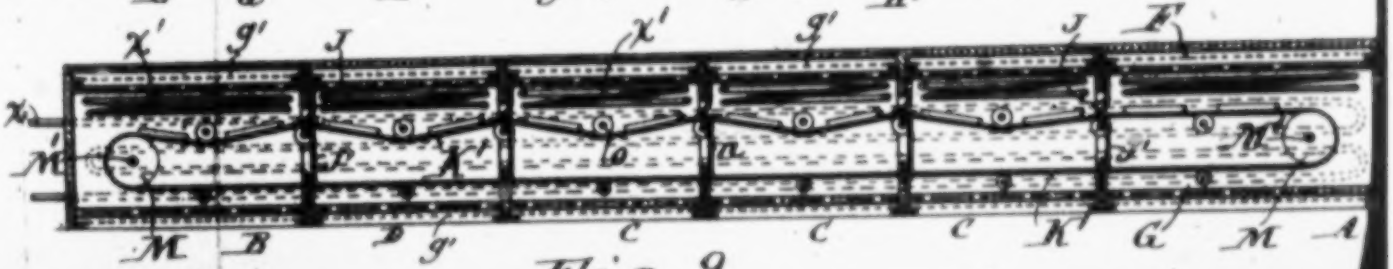


Fig. 9.



Frank C. Rattee
Inventor
by Eaton & Eaton
Attorneys

UNITED STATES PATENT OFFICE.

FRANK CLINTON PERKINS, OF BUFFALO, NEW YORK.

INCUBATOR.

No. 798,697. Specification of Letters Patent. Patented Sept. 5, 1905.

Application filed December 31, 1904. Serial No. 239,173.

To all whom it may concern:

Be it known that I, FRANK CLINTON PERKINS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented new and useful Improvements in Incubators, of which the following is a specification.

This invention relates to an incubator which is more particularly designed for hatching eggs continuously on a large scale.

The objects of this invention are to produce an incubator of this character in which the egg-trays are moved intermittently from the time they enter the machine through a succession of compartments in each of which the temperature is regulated to suit the requirements for hatching the eggs at that particular time; to provide improved means whereby the eggs are automatically and periodically turned; to provide means for conveniently and expeditiously inspecting the eggs at the proper time; to so construct the incubator that the same can be built in sections, the number of which can be varied to suit the desired capacity of the machine, and to improve the incubator in several details of construction.

In the accompanying drawings, consisting of four sheets, Figure 1 is a vertical longitudinal section of the front end of the machine. Fig. 2 is a similar view of the rear end of the machine. Figs. 3 and 4 are vertical cross-sections in lines 3 3 and 4 4, Figs. 1 and 2, respectively. Fig. 5 is a horizontal section in line 5 5, Fig. 1. Fig. 6 is a diagrammatic view showing a plurality of incubator-sections assembled according to my invention. Fig. 7 is a fragmentary section of one of the egg-trays on an enlarged scale. Fig. 8 is a vertical transverse section showing a modified construction of my improved incubator. Fig. 9 is a vertical longitudinal section of the same. Fig. 10 is a cross-section showing a modification of the means for heating the incubator. Similar letters of reference indicate corresponding parts throughout the several views.

In general organization my improved [illegible] which an endless conveyer or carrier is employed, the upper part of which moves the trays successively in one direction through the upper series of compartments, while the lower part thereof carries the trays in the opposite direction through the lower series of compartments. The upper series of compartments is constructed in the form of separable sections and consists of a front end or receiving-section A, a rear end section B, and a plurality of intermediate sections C D, and the lower series is likewise constructed in the form of sections which are counterparts of those of the upper series and consist of a front or discharging section A′, a rear section B′, and a plurality of intermediate sections C′ D′. Each of the front end sections A A′ is provided with an outer or front end wall *a*, which is closed, an inner or rear end wall *a′*, which has a central opening, a front side wall *a²*, having openings which are normally closed by doors *a³*, a vertical fresh-air-inlet conduit E, formed between the inner and outer walls *e e′* on the rear side of this section, a horizontal air-distributing conduit F, connected at one end with the top of the inlet-conduit and formed between an imperforate top partition or wall *f* of this section and a perforated partition *f′*, arranged below the top, and a perforated horizontal bottom *g*, arranged above the lower end of this section and forming an outlet-conduit G for this chamber for the foul air, which outlet-conduit is closed at its rear side and opens into the atmosphere at its front side. The outer wall of the fresh-air-inlet conduit terminates at its lower end above the lower end of the section, so as to form an air-inlet port or opening *e²*. For the purpose of enabling the air-supply to be regulated the capacity of this inlet-conduit is varied, preferably by hinging the outer wall *e′* at its upper end to this section. This permits the lower end of this wall to be moved laterally, more or less, for increasing or decreasing the supply of air, as required. The air-regulating valve or damper, which is thus formed by the hinged wall *e′*, may be held in its adjusted position by any

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Similar letters of reference indicate corresponding parts throughout the several views.

In its general organization my improved incubator comprises an inclosing casing, which is divided into a number of compartments in each of which the egg-trays are confined about twenty-four hours, and a carrier whereby the trays are successively advanced from one compartment to another.

In the preferred form of the incubator, as shown in Figs. 1 to 6, two longitudinal series of incubating-chambers are employed, one series being arranged on top of the other, and an endless conveyer or carrier is employed, the upper part of which moves the trays successively in one direction through the upper series of compartments, while the lower part thereof carries the trays in the opposite direction through the lower series of compartments. The upper series of compartments is constructed in the form of separable sections and consists of a front end or receiving-section A, a rear end section B, and a plurality of intermediate sections C D, and the lower series is likewise constructed in the form of sections which are counterparts of those of the upper series and consist of a front or discharging section A′, a rear section B′, and a plurality of intermediate sections C′ D′. Each of the front end sections A A′ is provided with an outer or front end wall a, which is closed, an inner or rear end wall a', which has a central opening, a front side wall a^2, having openings which are normally closed by doors a^3, a vertical fresh-air-inlet conduit E, formed between the inner and outer walls $e e'$ on the rear side of this section, a horizontal air-distributing-conduit F, connected at one end with the top of the inlet-conduit and formed between an imperforate top partition or wall f of this section and a perforated partition f', arranged below the top, and a perforated horizontal bottom g, arranged above the lower end of this section and forming an outlet-conduit G for this chamber for the foul air, which outlet-conduit is closed at its rear side and opens into the atmosphere at its front side. The outer wall of the fresh-air-inlet conduit terminates at its lower end above the lower end of the section, so as to form an air-inlet port or opening e^2. For the purpose of enabling the air-supply to be regulated the capacity of this inlet-conduit is varied, preferably by hinging the outer wall e' at its upper end to this section. This permits the lower end of this wall to be moved laterally, more or less, for increasing or decreasing the supply of air, as required. The air-regulating valve or damper, which is thus formed by the hinged wall e', may be held in its adjusted position by any suitable means, that shown in the drawings consisting of a segment e^3, arranged on the section and receiving a socket e^4 on the wall e', and a set-screw e^5, arranged on the socket and bearing against the segment, as shown in Figs. 3, 4, and 5. The fresh air entering through the port e^2 at the lower end of the inlet-conduit passes upwardly through the same and from the upper end thereof into

the distributing-conduit, thence downwardly through the perforated lower wall thereof into the incubating-chamber of the section, thence through the perforated bottom into the outlet-conduit, and thence to the atmosphere, by which means fresh air is constantly supplied to this chamber. Within the inlet-conduit a continuous heater is arranged, consisting, for instance, of a coil H, through which hot water is circulated and which heats the incoming air as the same passes upwardly through the inlet-conduit. As the air passes from the distributing-conduit into the upper part of the incubating-chamber the same is further heated by a plurality of electric lamps I or other heater arranged in this part of the chamber. These lamps are connected with an electric generator the circuit of which contains a thermostatic switch *i'*, which is also arranged in the upper part of this chamber, as shown in Figs. 1 and 6. This switch is so adjusted that when the temperature of this chamber exceeds a certain degree the electric circuit of the lamps in the same will be broken, thereby causing the heating effect of these lamps to be arrested until the temperature has again been lowered to the required extent, when the thermostatic switch again reëstablishes the electric circuit containing the lamps I and causes heating of the chamber to be resumed. By dividing the heating system so that the heat is furnished partly by a continuous heater, such as the hot-water coil H, and partly by other heaters which are thermostatically controlled, such as the lamps in the upper part of the incubating-chamber, it is possible to control the temperature within the chamber with great nicety and without danger of at any time unduly cooling the eggs, as would be liable to occur if all of the lamps were extinguished or illuminated at one time.

When the incubator is installed in a locality where an electric current is not available from a general supply, it is preferable to heat the incubator by a combination of the electric-lamp system and the hot-water system, (shown in Figs. 1 to 6,) as follows: *i* represents a dynamo of any suitable construction which generates an electric current and which is connected with sets of lamps in the several [illegible] *e* represents an internal-combustion engine having its crank-shaft or other rotative part connected with the jacket and coil for heating the air in the inlets, thereby utilizing the heat developed by the engine for warming the incubator instead of wasting the same.

For the purpose of causing the air to enter and leave uniformly throughout the incubating-chambers and also to protect the eggs against drafts a screen or filter is preferably arranged in the horizontal air inlet and outlet of each chamber. Each of these screens preferably consists of a sheet *g'*, of burlap or other loosely-woven or porous fabric, arranged centrally within the respective air inlet or outlet conduit F G and secured to a frame *g''*, which is removably arranged in said conduit, as shown in Figs. 1, 2, 3, and 4.

The opening in the rear end wall of each chamber A A' is practically closed by a yielding curtain or shutter, which consists, preferably, of two flexible flaps or sections J J', which engage each other at their opposing curved ends, while their opposite ends are secured, respectively, to the adjacent upper and lower edges of the rear end wall of said chamber.

Each of the intermediate incubator-sections is constructed substantially like the front sections, and the same letters of reference are therefore used to indicate like parts. In the intermediate sections, however, no front end walls are employed, such as are present on the front ends of the front sections. The front ends of the air-inlet and distributing conduits of the intermediate sections are closed by abutting this end of each intermediate section against the rear end wall of the section in front of the same, as shown in Figs. 1, 5, and 6. Each of the rear incubator-sections is also constructed substantially like the front sections, the essential differences being that it has a rear wall *b*, which closes the rear end of the same, but no front end wall, the front ends of the air inlet, distributing, and outlet conduits of the same being closed by abutting the front end of this section against the rear end wall of the intermediate section in front of the same, as shown in Fig. 2. The front side walls of the rear sections B B' are provided with [illegible] normally closed by doors [illegible] rear sections are unprovided with any doors or curtains for separating the [illegible] thereof from the chamber in the [illegible] section, inasmuch as such [illegible]

conduit a continuous heater is arranged, consisting, for instance, of a coil H, through which hot water is circulated and which heats the incoming air as the same passes upwardly through the inlet-conduit. As the air passes from the distributing-conduit into the upper part of the incubating-chamber the same is further heated by a plurality of electric lamps I or other heater arranged in this part of the chamber. These lamps are connected with an electric generator the circuit of which contains a thermostatic switch i'', which is also arranged in the upper part of this chamber, as shown in Figs. 1 and 6. This switch is so adjusted that when the temperature of this chamber exceeds a certain degree the electric circuit of the lamps in the same will be broken, thereby causing the heating effect of these lamps to be arrested until the temperature has again been lowered to the required extent, when the thermostatic switch again reëstablishes the electric circuit containing the lamps I and causes heating of the chamber to be resumed. By dividing the heating system so that the heat is furnished partly by a continuous heater, such as the hot-water coil H, and partly by other heaters which are thermostatically controlled, such as the lamps in the upper part of the incubating-chamber, it is possible to control the temperature within the chamber with great nicety and without danger of at any time unduly cooling the eggs, as would be liable to occur if all of the lamps were extinguished or illuminated at one time.

When the incubator is installed in a locality where an electric current is not available from a general supply, it is preferable to heat the incubator by a combination of the electric-lamp system and the hot-water system, (shown in Figs. 1 to 6,) as follows: i represents a dynamo of any suitable construction which generates an electric current and which is connected in multiple with the groups or sets of lamps I and thermostatic switches i'' in the several incubating-chambers. z represents an internal-combustion engine having its crank-shaft operatively connected with the dynamo for driving the same. The heating-coil H, arranged in the air-inlets of the several incubating-chambers, has its upper and lower ends connected, respectively, with the upper and lower ends of the water-jacket z^3, which surrounds the cylinder z' of the engine. While the power of the engine is driving the dynamo for illuminating the lamps and heating the air in the incubating-chambers, the water in the jacket is heated by the explosions and caused to circulate through the

against drafts a screen or filter is pre... arranged in the horizontal air inlet and ... let of each chamber. Each of these scr... preferably consists of a sheet g', of burlap ... other loosely-woven or porous fabric, ... ranged centrally within the respective ... inlet or outlet conduit F G and secured to a frame g'', which is removably arranged in said conduit, as shown in Figs. 1, 2, 3, and 4.

The opening in the rear end wall of each chamber A A′ is practically closed by a yielding curtain or shutter, which consists, preferably, of two flexible flaps or sections J J′, which engage each other at their opposing curved ends, while their opposite ends are secured, respectively, to the adjacent upper and lower edges of the rear end wall of said chamber.

Each of the intermediate incubator-sections is constructed substantially like the front sections, and the same letters of reference are therefore used to indicate like parts. In the intermediate sections, however, no front end walls are employed, such as are present on the front ends of the front sections. The front ends of the air-inlet and distributing conduits of the intermediate sections are closed by abutting this end of each intermediate section against the rear end wall of the section in front of the same, as shown in Figs. 1, 5, and 6. Each of the rear incubator-sections is also constructed substantially like the front sections, the essential differences being that it has a rear wall b, which closes the rear end of the same, but no front end wall, the front ends of the air inlet, distributing, and outlet conduits of the same being closed by abutting the front end of this section against the rear end wall of the intermediate section in front of the same, as shown in Fig. 2. The front side walls of the rear sections B B′ are provided with openings which are normally closed by doors b'. The rear sections are unprovided with any shutters or curtains for separating the chamber thereof from the chamber in the preceding section, inasmuch as such shutters are ... at the rear end of the latter. When ... gitudinal series of incubator-sections ... arranged one above the other, the lo... of the air-outlet conduits are form... support upon which the lower ... while the lower side of the air-outl... of the upper series is formed by t... the sections of the lower series. I... the temperature of the air to whi... carrying trays are subjected must ... at different times during the inc...

riod, the thermostatic switch in each incubating-chamber which incloses each batch of eggs for one day is so adjusted as to maintain this chamber at the temperature required for the eggs at this particular stage of the incubating period. If desired, a sufficient number of sections may be employed in the upper and lower series so that complete incubation can be effected from the time the egg-carrying trays are introduced into one end of each series to the time they reach the other end of the same series. In this case the egg-trays can be introduced into the chamber of one end section through the opening thereof and the trays and chicks removed from the corresponding opposite end chamber through the opening thereof. By employing twenty-four sections in both the upper and the lower series the incubation of chickens can be thus effected. When space does not permit of building an incubator with a sufficient number of sections to complete incubation in one series, the same may be shortened by reducing the number of intermediate sections and retaining the front and rear end sections. When the machine is thus shortened, the incubation proceeds from the time the eggs are introduced into the upper front section to the time they are moved forwardly successively through the intermediate sections and reach the upper rear section, and then the egg-carrying trays are removed from the upper rear section and introduced into the chamber of the lower rear section and moved successively backward through the several intermediate sections. A machine having eleven such superposed pairs of sections would enable the incubation to be completed by one forward passage through the upper series and one rearward passage through the lower series. If a still smaller incubator is desired, the number of intermediate sections can be still further reduced, which, however, would necessitate more than one complete circuit of both series of chambers, the precise number of circuits depending upon the number of sections employed. When incubation is thus effected [illegible] in both the upper and lower series of [illegible], the egg-trays are transferred from [illegible] chamber upon reaching that end of a [illegible] placed in the companion end chamber [illegible] other series for continuing incubation [illegible] being possible owing to the open- [illegible] end chambers.

[illegible] shown in the drawings central parts of the chambers in the front, intermediate, and rear sections. Each pair of companion fixed sprocket-wheels is secured to a transverse shaft Q, which is journaled in bearings on the front and rear side walls of the respective chambers. Each of the front sections supports the shafts of one pair of front fixed sprocket-wheels and one pair of intermediate fixed sprocket-wheels at its front and rear ends, respectively, each intermediate section supports the shaft of a pair of intermediate fixed sprocket-wheels at its rear end, and each rear section supports the shaft of a pair of rear fixed wheels at its rear end. The adjustable wheels in each of the front, intermediate, and rear sections are each mounted on a vertically-movable slide p, which moves in a guideway p' on the adjacent side wall of the respective chamber. Any suitable means may be employed for effecting this adjustment, that shown in the drawings consisting of a screw p^3, which is capable of rotation only in the guideway and works in a threaded opening in the slide. The fixed sprocket-wheels of the upper chambers are arranged horizontally in line, or substantially so, and like wheels of the lower series of chambers are also arranged horizontally in line. The adjustable wheels in the intermediate and front sections of both series of sections are arranged out of line or offset from the fixed wheels, so as to produce a deflection in the adjacent parts of the chains passing around the same. The adjustable wheels in the front chambers are so arranged that they support the chains horizontally between the fixed wheels thereof and prevent downward deflection or sagging of these parts of the chain belts. In the upper series of chambers the companion chain belts pass horizontally forward over the front fixed wheels l, and the first pair of adjustable wheels o to the first pair of intermediate fixed wheels n, thence downwardly at an inclination and around the adjustable wheels o in the first intermediate chamber, thence upwardly at an inclination and around the fixed wheels n at the rear end of the first intermediate chamber, thence downwardly and upwardly around the fixed and adjustable wheels of the remaining intermediate sections, thence downwardly around the adjustable wheels in the upper rear section, and thence over and downwardly around the rearmost pair of fixed wheels m in the rear chamber. That part of the chain belt in the lower series

introduced into one end of each series to the time they reach the other end of the same series. In this case the egg-trays can be introduced into the chamber of one end section through the opening thereof and the trays and chicks removed from the corresponding opposite end chamber through the opening thereof. By employing twenty-four sections in both the upper and the lower series the incubation of chickens can be thus effected. When space does not permit of building an incubator with a sufficient number of sections to complete incubation in one series, the same may be shortened by reducing the number of intermediate sections and retaining the front and rear end sections. When the machine is thus shortened, the incubation proceeds from the time the eggs are introduced into the upper front section to the time they are moved forwardly successively through the intermediate sections and reach the upper rear section, and then the egg-carrying trays are removed from the upper rear section and introduced into the chamber of the lower rear section and moved successively backward through the several intermediate sections. A machine having eleven such superposed pairs of sections would enable the incubation to be completed by one forward passage through the upper series and one rearward passage through the lower series. If a still smaller incubator is desired, the number of intermediate sections can be still further reduced, which, however, would necessitate more than one complete circuit of both series of chambers, the precise number of circuits depending upon the number of sections employed. When incubation is thus effected partly in both the upper and lower series of chambers, the egg-trays are transferred from one end chamber upon reaching that end of a series and placed in the companion end chamber of the other series for continuing incubation, this being possible owing to the open-ends in the end chambers.

The endless carrier shown in the drawings whereby the egg-trays are moved successively through the incubating-chambers comprises two chain belts K K, which are arranged side by side and which move parallel around fixed sprocket-wheels *l l' m m'* at the front ends of the front chambers and in the rear ends of the rear chambers, also around intermediate fixed sprocket-wheels *n*, arranged at the joints between the several sections, also around adjustable sprocket-wheels *o*, arranged in the and rear ends, respectively, each intermediate section supports the shaft of a pair of intermediate fixed sprocket-wheels at its rear end, and each rear section supports the shaft of a pair of rear fixed wheels at its rear end. The adjustable wheels in each of the front, intermediate, and rear sections are each mounted on a vertically-movable slide *p*, which moves in a guideway *p'* on the adjacent side wall of the respective chamber. Any suitable means may be employed for effecting this adjustment, that shown in the drawings consisting of a screw *p²*, which is capable of rotation only in the guideway and works in a threaded opening in the slide. The fixed sprocket-wheels of the upper chambers are arranged horizontally in line, or substantially so, and like wheels of the lower series of chambers are also arranged horizontally in line. The adjustable wheels in the intermediate and front sections of both series of sections are arranged out of line or offset from the fixed wheels, so as to produce a deflection in the adjacent parts of the chains passing around the same. The adjustable wheels in the front chambers are so arranged that they support the chains horizontally between the fixed wheels thereof and prevent downward deflection or sagging of these parts of the chain belts. In the upper series of chambers the companion chain belts pass horizontally forward over the front fixed wheels *l*, and the first pair of adjustable wheels *o* to the first pair of intermediate fixed wheels *n*, thence downwardly at an inclination and around the adjustable wheels *o* in the first intermediate chamber, thence upwardly at an inclination and around the fixed wheels *n* at the rear end of the first intermediate chamber, thence downwardly and upwardly around the fixed and adjustable wheels of the remaining intermediate sections, thence downwardly around the adjustable wheels in the upper rear section, and thence over and downwardly around the rearmost pair of fixed wheels *m* in the rear chamber. That part of the chain belt in the lower series of chambers first passes underneath the fixed pair of wheels *m'* in the rearmost chamber of this series, thence upwardly at an inclination over the adjustable wheels *o* in this chamber, thence downwardly at an inclination underneath the fixed wheels *n* at the rear end of the intermediate chamber next to the rearmost chamber, thence successively over the adjustable wheels and underneath the fixed wheels of the remaining intermediate sections, whereby

an alternate upward and downward deflection is produced in the belt, thence horizontally underneath the fixed wheels n' l', and over the adjustable wheel of the lower front section. In order to permit the chain belts to pass from the lower front section to the upper front section, the top and bottom partitions or walls of these chambers are provided in their front ends with openings r, which receive the vertical front portions of these belts. For the same purpose the rear sections of both series of chambers are provided in their horizontal top and bottom walls with openings r' to permit the rear vertical portion of the chain belts to pass from the upper rear chamber to the lower rear chamber. Each of the end chambers is preferably provided with chain-openings in all of its horizontal members or walls, so as to permit of interchanging the chambers at one end of the incubator and enable either one to be used at the top or the bottom. Those belt-openings in any one of the end sections which are not in service for the passage of a belt are closed by means of plugs r^3, as shown in Figs. 1 and 2. In the upper front section the adjustable wheels o are arranged substantially in line with the adjacent fixed wheels in order to adapt themselves to those portions of the belt which pass over the adjacent fixed wheels, and in the lower front section the adjustable wheels are arranged out of line with the adjacent fixed wheels, inasmuch as the corresponding parts of the chain belts pass around the under sides of the respective fixed wheels. The upper and lower front sections of the incubator are therefore identical in construction and the only change necessary to adapt either of them for use as an upper or lower front section is to place the adjustable wheels into the required position and insert plugs r^3 into those openings which are not required, according as to whether the section is to be used in the upper or lower series of the incubator. The upper and lower intermediate sections are also identical in construction, and the same is true with reference to the upper and lower rear sections, the only requirement for adapting any one of the intermediate and rear sections for use either as an upper or a lower section being the reversal of the adjustable wheels on the front and rear side walls of the respective chambers in order to adapt them to the course which the belt is required to take through the particular chamber. Any suitable means may be provided for holding

able intervals the two chain belts are connected by transverse supporting-rods s. T represents frames whereby the egg-carrying trays are supported upon these rods. Each of these frames is of skeleton form and provided on opposite sides with hooks or seats t, whereby the same may be detachably suspended upon a pair of adjacent supporting-rods s. On its upper side the frame is provided with transverse guideways t, which receive the tray and permit the same to be slid transversely off and on from the frame, but hold the tray against displacement in a direction lengthwise of the movement of the carrier. Each of the trays is preferably provided with a plurality of individual rectangular pockets u, each of which preferably has its bottom u' constructed of flexible material and adapted to receive a single egg.

In the operation of the incubator the carrier is advanced the extent of one tray-space every twelve hours and a new frame and egg-laden tray are placed upon the carrier after the same has been thus advanced. Preparatory to the starting the incubation of a tray full of eggs a frame T is first placed upon a companion pair of supporting-rods in the upper front chamber and the egg-laden tray is then placed upon this frame. As the trays move forward horizontally during the first stage of incubation in the upper front chamber the eggs remain substantially in the center of their respective pockets. As the tray enters the first intermediate chamber and goes through the next half-day of incubation the same is tilted downwardly at its front end, causing the eggs to roll toward the front sides of the pockets. As the carrier is advanced another step during the next half-day of incubation the tray is tilted upwardly at its front or advancing end in the rear part of the first intermediate chamber, thereby causing the eggs to roll toward the rear or trailing side of the pockets thereof. Each of the trays is in like manner tilted in opposite directions during its passage through each of the intermediate and rear sections of the incubator, thereby automatically effecting the turning or shifting of the eggs periodically, as required, to produce proper hatching of the eggs. If the number of sections which are employed in the incubator is such that the incubation is not completed by the time the egg-trays pass in one direction from one end of the [illegible] to the other, the trays [illegible]

tical front portions of these belts. For the same purpose the rear sections of both series of chambers are provided in their horizontal top and bottom walls with openings r' to permit the rear vertical portion of the chain belts to pass from the upper rear chamber to the lower rear chamber. Each of the end chambers is preferably provided with chain-openings in all of its horizontal members or walls, so as to permit of interchanging the chambers at one end of the incubator and enable either one to be used at the top or the bottom. Those belt-openings in any one of the end sections which are not in service for the passage of a belt are closed by means of plugs r^3, as shown in Figs. 1 and 2. In the upper front section the adjustable wheels o are arranged substantially in line with the adjacent fixed wheels in order to adapt themselves to those portions of the belt which pass over the adjacent fixed wheels, and in the lower front section the adjustable wheels are arranged out of line with the adjacent fixed wheels, inasmuch as the corresponding parts of the chain belts pass around the under sides of the respective fixed wheels. The upper and lower front sections of the incubator are therefore identical in construction and the only change necessary to adapt either of them for use as an upper or lower front section is to place the adjustable wheels into the required position and insert plugs r^3 into those openings which are not required, according as to whether the section is to be used in the upper or lower series of the incubator. The upper and lower intermediate sections are also identical in construction, and the same is true with reference to the upper and lower rear sections, the only requirement for adapting any one of the intermediate and rear sections for use either as an upper or a lower section being the reversal of the adjustable wheels on the front and rear side walls of the respective chambers in order to adapt them to the course which the belt is required to take through the particular chamber. Any suitable means may be provided for holding the several sections in place after being assembled. For instance, this may be effected by dowling the sections together, as shown by dotted lines in Figs. 1 and 2.

The egg-trays may be removably supported upon the endless carrier in any suitable manner so as to follow the movements of the carrier. The preferred means for thus supporting the egg-trays on the carrier shown in the drawings are constructed as follows: At suitable points on the carrier are arranged transverse guideways t, which receive the tray and permit the same to be slid transversely off and on from the frame, but hold the tray against displacement in a direction lengthwise of the movement of the carrier. Each of the trays is preferably provided with a plurality of individual rectangular pockets u, each of which preferably has its bottom u' constructed of flexible material and adapted to receive a single egg.

In the operation of the incubator the carrier is advanced the extent of one tray-space every twelve hours and a new frame and egg-laden tray are placed upon the carrier after the same has been thus advanced. Preparatory to the starting the incubation of a tray full of eggs a frame T is first placed upon a companion pair of supporting-rods in the upper front chamber and the egg-laden tray is then placed upon this frame. As the trays move forward horizontally during the first stage of incubation in the upper front chamber the eggs remain substantially in the center of their respective pockets. As the tray enters the first intermediate chamber and goes through the next half-day of incubation the same is tilted downwardly at its front end, causing the eggs to roll toward the front sides of the pockets. As the carrier is advanced another step during the next half-day of incubation the tray is tilted upwardly at its front or advancing end in the rear part of the first intermediate chamber, thereby causing the eggs to roll toward the rear or trailing side of the pockets thereof. Each of the trays is in like manner tilted in opposite directions during its passage through each of the intermediate and rear sections of the incubator, thereby automatically effecting the turning or shifting of the eggs periodically, as required, to produce proper hatching of the eggs. If the number of sections which are employed in the incubator is such that the incubation is not completed by the time the egg-trays pass in one direction from one end of a series to the other, the trays and their frames are removed from one end chamber and transferred to the adjacent end chamber of the other series for continuing the incubation in the opposite direction as long as may be necessary to hatch the eggs. As the trays and their frames pass from one chamber to another the flexible curtains are deflected by the frames and trays engaging with the same, and after the frames and trays clear the curtains the latter, owing to their resilience, again re-

same their normal position, in which their opposing ends engage each other and form a closure between the respective chambers on opposite sides of the same. To permit the curtains to be readily deflected by the frames and trays, the joint between the curtain-sections is arranged substantially in line with the frames and trays.

In order to permit of inspecting or candling the eggs, means are provided on one or more of the sections for this purpose, which are constructed as follows: As shown in Fig. 2, each of the rearmost intermediate sections D D′ of the incubator is provided in its front side wall, on opposite sides of the adjacent adjustable sprocket-wheel, with openings, which are normally closed by doors *v*. These doors are hinged at their lower ends to the adjacent front wall of the respective section and are provided at their lower ends with a series of electric testing or inspection lamps V. Each of the trays has the flexible bottoms of its pockets provided at one side thereof with an inspection or testing opening *u*′, over which an egg is adapted to rest when the tray is tilted toward that side of the tray. When it is desired to inspect the eggs in a tray, one or the other of the doors *v* is opened into a horizontal position, so that the lamps on the lower or inner part thereof project upwardly, as shown in the upper section of Figs. 2 and 4. Upon now withdrawing the tray from the respective frame each row of eggs may be brought successively over the lamps below the same, so that by looking at the eggs from the top the state of incubation of the same may be determined by the light of the lamps shining upwardly through the eggs. As many lamps are preferably employed as there are longitudinal rows of eggs, and these lamps are so arranged that each egg in a row is illuminated by an individual lamp, thus permitting the entire row of eggs to be inspected at one time without removing any of the eggs from the tray. By shifting the several rows of eggs successively over the testing-lamps all of the eggs in a tray can be inspected expeditiously, thereby reducing the time of exposure for inspection and increasing the output of the incubator in proportion, because the danger of spoiling eggs by inspection is reduced to a minimum. By providing two sets of lamps in the chamber of each inspection-section, which are arranged underneath the oppositely-tilted trays therein, the eggs [illegible] in the trays regardless of necting and disconnecting each set of testing-lamps with an electric circuit, so that the lamps may be turned on for use and turned out when not required. Although the two inspecting-sections are shown one above the other in front of the rearmost sections, these inspecting-sections can be placed wherever the size of the machine or other conditions may require.

Various means may be employed for moving the endless carrier forward, that shown in the drawings consisting of a hand-crank *q*, applied to the shaft of one pair of fixed sprocket-wheels, as shown in Figs. 3 and 5. The endless carrier may be held in place by means of a pawl *q*′, mounted on one of the sections and engaging with a ratchet-wheel *q*², which is mounted on the driving-shaft adjacent to the hand-crank *q*.

In the modification of the incubator shown in Figs. 8 and 9 the incubator is organized with a single series, means are provided for heating the incubating-chamber exclusively by hot water, and the carrier is so constructed that the same moves back and forth through the same series of sections. In this construction a heating coil or radiator is provided, one portion *x* of which is arranged vertically in the air-inlet conduit E′, while another portion *x*′ is arranged horizontally in the upper part of the incubating-chamber. The hot water entering at the lower end of the lower portion of the coil passes upwardly through the same, thence horizontally through the upper portion, and then is discharged to be again heated by any suitable means and again introduced into the lower portion. The regulation of the temperature in the incubating-chamber when using heating-coils in this manner is effected by opening and closing a vent-port in the top of the inlet-conduit by means of a valve or damper *y*. This movement of the damper is effected by means of a rock-lever *y*′, which is pivoted on top of the incubator and is connected with the damper and a thermostat *y*², arranged in the upper part of the incubating-chamber and connected with the rock-lever. The endless carrier for propelling the trays and their frames in this construction consists of two chains K′ K′, which move back and forth in the same series of chambers and pass around sprocket-wheels M, mounted on shafts M′, which are journaled in the chambers, the same being provided on the outside of the incubating-chamber with a hand-crank and a ratchet stop device similar to that shown in

sections for this purpose, which are constructed as follows: As shown in Fig. 2, each of the rearmost intermediate sections D D′ of the incubator is provided in its front side wall, on opposite sides of the adjacent adjustable sprocket-wheel, with openings, which are normally closed by doors *v*. These doors are hinged at their lower ends to the adjacent front wall of the respective section and are provided at their lower ends with a series of electric testing or inspection lamps V. Each of the trays has the flexible bottoms of its pockets provided at one side thereof with an inspection or testing opening u^3, over which an egg is adapted to rest when the tray is tilted toward that side of the tray. When it is desired to inspect the eggs in a tray, one or the other of the doors *v* is opened into a horizontal position, so that the lamps on the lower or inner part thereof project upwardly, as shown in the upper section of Figs. 2 and 4. Upon now withdrawing the tray from the respective frame each row of eggs may be brought successively over the lamps below the same, so that by looking at the eggs from the top the state of incubation of the same may be determined by the light of the lamps shining upwardly through the eggs. As many lamps are preferably employed as there are longitudinal rows of eggs, and these lamps are so arranged that each egg in a row is illuminated by an individual lamp, thus permitting the entire row of eggs to be inspected at one time without removing any of the eggs from the tray. By shifting the several rows of eggs successively over the testing-lamps all of the eggs in a tray can be inspected expeditiously, thereby reducing the time of exposure for inspection and increasing the output of the incubator in proportion, because the danger of spoiling eggs by inspection is reduced to a minimum. By providing two sets of lamps in the chamber of each inspecting-section, which are arranged underneath the oppositely-tilted trays therein, the eggs can be inspected in the trays regardless of whether the inspecting-openings u^3 are arranged in the advancing side of the pockets or in the trailing side thereof, because in one position or the other the eggs will be over openings of the pockets while passing through the inspecting-chamber, thereby avoiding the necessity of exercising care in placing the trays upon the frames of the endless carrier. A switch *w* is preferably employed for conning the endless carrier forward, that shown in the drawings consisting of a hand-crank *q*, applied to the shaft of one pair of fixed sprocket-wheels, as shown in Figs. 3 and 5. The endless carrier may be held in place by means of a pawl q', mounted on one of the sections and engaging with a ratchet-wheel q^2, which is mounted on the driving-shaft adjacent to the hand-crank *q*.

In the modification of the incubator shown in Figs. 8 and 9 the incubator is organized with a single series, means are provided for heating the incubating-chamber exclusively by hot water, and the carrier is so constructed that the same moves back and forth through the same series of sections. In this construction a heating coil or radiator is provided, one portion *x* of which is arranged vertically in the air-inlet conduit E′, while another portion x' is arranged horizontally in the upper part of the incubating-chamber. The hot water entering at the lower end of the lower portion of the coil passes upwardly through the same, thence horizontally through the upper portion, and then is discharged to be again heated by any suitable means and again introduced into the lower portion. The regulation of the temperature in the incubating-chamber when using heating-coils in this manner is effected by opening and closing a vent-port in the top of the inlet-conduit by means of a valve or damper *y*. This movement of the damper is effected by means of a rock-lever y', which is pivoted on top of the incubator and is connected with the damper and a thermostat y^2, arranged in the upper part of the incubating-chamber and connected with the rock-lever. The endless carrier for propelling the trays and their frames in this construction consists of two chains K′ K′, which move back and forth in the same series of chambers and pass around sprocket-wheels M, mounted on shafts M′, which are journaled in the chambers, the same being provided on the outside of the incubating-chamber with a hand-crank and a ratchet stop device similar to that shown in Figs. 3 and 5 of the double-series incubator. In this construction of incubator only one part of the endless carrier is active, while the other part is idle.

If desired, the incubator may be heated solely by means of electricity, such an organization being shown in Fig. 10, in which intermittently-burning electric lamps I, controlled by thermostats i', are arranged within the incu-

bating-chamber, and continuously-burning electric lamps l' are arranged in the air-supply conduits and permanently connected with the electric generator *i*.

It will be noted that the construction shown in Figs. 1 to 6 is in all respects like that shown in Fig. 10, except that the continuous heater in the air-inlet of the construction shown in Figs. 1 to 6 is composed of a hot-water coil, while in the construction shown in Fig. 10 the continuous heater consists of electric lamps, both constructions showing thermostatically-controlled electric heaters in the incubating-chamber.

My improved construction of incubator not only permits of hatching eggs continuously on a large scale with a smaller percentage of loss than has been possible heretofore, but also permits of manufacturing the same at a comparatively low cost on account of the identity of the sections. Furthermore, my improved construction of incubator enables the capacity of the incubator to be increased from time to time as necessitated by the increase in the business of the poultry raiser without requiring a reconstruction of the incubator and without causing any loss, inasmuch as there are no parts which have to be discarded when increasing the capacity of the incubator.

I claim as my invention—

1. An incubator comprising an incubating-chamber, and an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of said chamber, the outer wall of said conduit being adjustable laterally for varying the air-supply, substantially as set forth.

2. An incubator comprising an incubating-chamber and an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of said chamber, the outer wall of said conduit being hinged at its upper end so that its lower part is movable laterally for varying the air-supply and having means at its lower end for holding the same in its adjusted position, substantially as set forth.

3. An incubator comprising an incubating-chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of the incubating-chamber, and a heater arranged in said air-supply conduit, substantially as set forth.

4. An incubator comprising an incubating-chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of the incubating-chamber, a continuous heater arranged in said conduit, an electric heater arranged in the incubating-chamber, and a thermostatic switch arranged in the incubating-chamber and operating to connect and disconnect the heater in the incubating-chamber with an electric generator, substantially as set forth.

6. An incubator comprising a chamber and means for heating the incubator comprising partly an electric heater and partly a radiator, a dynamo connected with the electric heater, and an internal-combustion engine driving said dynamo and having a water-jacket around its cylinder which is connected with said radiator, substantially as set forth.

7. An incubator comprising a chamber, an air-inlet, and means for heating the incubator consisting of electric lamps and a thermostatic switch arranged in said chamber, a dynamo connected with said lamps and switch, a heating-coil arranged in said air-inlet, and an internal-combustion engine driving said dynamo and having a water-jacket around its cylinder which is connected with opposite ends of said coil, substantially as set forth.

8. An incubator comprising an incubating-chamber, an upright air-supply conduit arranged on one side of the chamber and having its outer wall terminating short of the lower end of the incubator forming an air-inlet, an air-distributing conduit arranged above the chamber and connected at one end with the upper end of the upright conduit and having perforations in its lower side for communication with the top of said chamber, and an air-discharge conduit arranged horizontally underneath the incubating-chamber and having perforations in its upper side for communication with the bottom of the incubating-chamber, substantially as set forth.

9. An incubator comprising an incubating-chamber, an upright air-supply conduit arranged on one side of the chamber, an air-distributing conduit arranged above the chamber and connected at one end with the upper end of said upright conduit, an air-discharge conduit arranged underneath said chamber and communicating at one end with the atmosphere, and screens arranged in said air-distributing and discharge chambers, substantially as set forth.

10. An incubator comprising a plurality of incubating-chambers, individual heaters for said chambers, and an egg-tray car-

Fig. 10 the contraband heater consists of electric lamps, both constructions showing thermostatically-controlled electric heaters in the incubating-chamber.

My improved construction of incubator not only permits of hatching eggs continuously on a large scale with a smaller percentage of loss than has been possible heretofore, but also permits of manufacturing the same at a comparatively low cost on account of the identity of the sections. Furthermore, my improved construction of incubator enables the capacity of the incubator to be increased from time to time as necessitated by the increase in the business of the poultry raiser without requiring a reconstruction of the incubator and without causing any loss, inasmuch as there are no parts which have to be discarded when increasing the capacity of the incubator.

I claim as my invention—

1. An incubator comprising an incubating-chamber, and an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of said chamber, the outer wall of said conduit being adjustable laterally for varying the air-supply, substantially as set forth.

2. An incubator comprising an incubating-chamber and an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of said chamber, the outer wall of said conduit being hinged at its upper end so that its lower part is movable laterally for varying the air-supply and having means at its lower end for holding the same in its adjusted position, substantially as set forth.

3. An incubator comprising an incubating-chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of the incubating-chamber, and a heater arranged in said air-supply conduit, substantially as set forth.

4. An incubator comprising an incubating-chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of the incubating-chamber, a heater arranged in said chamber, a heater arranged in said conduit, and means for controlling one of said heaters, substantially as set forth.

5. An incubator comprising an incubating-chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating partly an electric heater and partly a [illegible] a dynamo connected with the electric heater and an internal-combustion engine driving said dynamo and having a water-jacket around its cylinder which is connected with said radiator, substantially as set forth.

7. An incubator comprising a chamber, an air-inlet, and means for heating the incubator consisting of electric lamps and a thermostatic switch arranged in said chamber, a dynamo connected with said lamps and switch, a heating-coil arranged in said air-inlet, and an internal-combustion engine driving said dynamo and having a water-jacket around its cylinder which is connected with opposite ends of said coil, substantially as set forth.

8. An incubator comprising an incubating-chamber, an upright air-supply conduit arranged on one side of the chamber and having its outer wall terminating short of the lower end of the incubator forming an air-inlet, an air-distributing conduit arranged above the chamber and connected at one end with the upper end of the upright conduit and having perforations in its lower side for communication with the top of said chamber, and an air-discharge conduit arranged horizontally underneath the incubating-chamber and having perforations in its upper side for communication with the bottom of the incubating-chamber, substantially as set forth.

9. An incubator comprising an incubating-chamber, an upright air-supply conduit arranged on one side of the chamber, an air-distributing conduit arranged above the chamber and connected at one end with the upper end of said upright conduit, an air-discharge conduit arranged underneath said chamber and communicating at one end with the atmosphere, and screens arranged in said air distributing and discharge chambers, substantially as set forth.

10. An incubator comprising a plurality of incubating-chambers, individual heaters [illegible] said chambers, and an egg-tray carrier movable successively through said chambers, substantially as set forth.

11. An incubator comprising a plurality of incubating-chambers, movable shutters [illegible] separate the chambers from each other, individual heaters for said chambers, and an egg-tray carrier movable successively through said chambers, substantially as set forth.

12. An incubator comprising a plura[illegible]

incubating-chambers, an egg-tray carrier movable successively through said chambers, individual heaters for said chambers, and shutters for separating said chambers from each other and each consisting of two flexible flaps which have their opposing ends engaging each other and arranged in the path of said tray-carrier, substantially as set forth.

13. An incubator comprising front and rear end sections and a plurality of intermediate sections, each section containing an incubating-chamber, and an egg-tray carrier movable successively through said chambers, substantially as set forth.

14. An incubator comprising a front section having front and rear end walls, a plurality of like intermediate sections each of which contains an incubating-chamber and is closed at its rear end by a rear end wall while its front end is closed by abutting either against the rear wall of the front section or the rear wall of the intermediate section in front of the same, and an egg-tray carrier movable successively through said chambers, substantially as set forth.

15. An incubator comprising a plurality of incubating-chambers, an egg-tray carrier movable successively through said chambers, and means for tilting said carrier and the trays supported thereby in opposite directions, substantially as set forth.

16. An incubator comprising a plurality of incubating-chambers, chain belts movable successively through said chambers, egg-trays carried by said belts, and wheels supporting said belts and arranged to tilt the belts and the trays supported thereby in opposite directions, substantially as set forth.

17. An incubator comprising a plurality of incubating-chambers, a pair of chain belts movable parallel through said chambers, egg-trays supported upon said belts, a plurality of fixed wheels around which said belts pass, and a plurality of adjustable wheels alternating with the fixed wheel and supporting the belts so that the same and the trays carried thereby tilt alternately in opposite directions, substantially as set forth.

18. An incubator comprising a front section, a rear section and a plurality of intermediate sections, each containing an incubat- [illegible] wheels mounted

19. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets, and means for tilting said tray alternately in opposite directions, substantially as set forth.

20. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets, each provided with a flexible bottom, and means for tilting said tray alternately in opposite directions, substantially as set forth.

21. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets each provided in its bottom with an opening over which the egg is adapted to rest, and an illuminating device arranged below said tray, substantially as set forth.

22. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets each provided near one side of its bottom with an opening over which an egg is adapted to rest, means for tilting the tray, and an illuminating device arranged below said tray, substantially as set forth.

23. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets each having a flexible bottom which is provided near one side with an opening over which an egg is adapted to rest, means for tilting the tray, and an illuminating device arranged below the tray, substantially as set forth.

24. An incubator comprising an incubating-chamber having an opening in its side which is normally closed by a door, a support arranged in said chamber, an egg-tray which is provided with openings underneath the eggs and which is movable from said support laterally through said opening in the chamber, and an illuminating device arranged to illuminate the space below the path of the egg-tray, substantially as set forth.

25. An incubator comprising an incubating-chamber having an opening in its side, a door normally closing said opening and hinged at its lower end to the chamber so that the same can be shifted into a horizontal position, a support arranged in said chamber, an egg-tray having openings in its bottom over which [illegible] adapted to rest and movable from

tray-carrier, substantially as set forth.

13. An incubator comprising front and rear end sections and a plurality of intermediate sections, each section containing an incubating-chamber, and an egg-tray carrier movable successively through said chambers, substantially as set forth.

14. An incubator comprising a front section having front and rear end walls, a plurality of like intermediate sections each of which contains an incubating-chamber and is closed at its rear end by a rear end wall while its front end is closed by abutting either against the rear wall of the front section or the rear wall of the intermediate section in front of the same, and an egg-tray carrier movable successively through said chambers, substantially as set forth.

15. An incubator comprising a plurality of incubating-chambers, an egg-tray carrier movable successively through said chambers, and means for tilting said carrier and the trays supported thereby in opposite directions, substantially as set forth.

16. An incubator comprising a plurality of incubating-chambers, chain belts movable successively through said chambers, egg-trays carried by said belts, and wheels supporting said belts and arranged to tilt the belts and the trays supported thereby in opposite directions, substantially as set forth.

17. An incubator comprising a plurality of incubating-chambers, a pair of chain belts movable parallel through said chambers, egg-trays supported upon said belts, a plurality of fixed wheels around which said belts pass, and a plurality of adjustable wheels alternating with the fixed wheel and supporting the belts so that the same and the trays carried thereby tilt alternately in opposite directions, substantially as set forth.

18. An incubator comprising a front section, a rear section and a plurality of intermediate sections, each containing an incubating-chamber, a pair of fixed wheels mounted on shafts journaled in bearings at the front and rear of the chamber in said front section, a pair of fixed wheels mounted on a shaft journaled in bearings at the rear of the chamber in said rear section, a pair of fixed wheels mounted on a shaft journaled at the rear of the chamber in each of said intermediate sections, a pair of adjustable wheels mounted in the central part of the chamber of each front, intermediate and rear section, chain belts passing around said wheels, and egg-trays supported on said belts, substantially as set

chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets, each provided with a flexible bottom, and means for tilting said tray alternately in opposite directions, substantially as set forth.

21. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets each provided in its bottom with an opening over which the egg is adapted to rest, and an illuminating device arranged below said tray, substantially as set forth.

22. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets each provided near one side of its bottom with an opening over which an egg is adapted to rest, means for tilting the tray, and an illuminating device arranged below said tray, substantially as set forth.

23. An incubator comprising an incubating-chamber, a tray arranged in said chamber and having a plurality of individual egg-pockets each having a flexible bottom which is provided near one side with an opening over which an egg is adapted to rest, means for tilting the tray, and an illuminating device arranged below the tray, substantially as set forth.

24. An incubator comprising an incubating-chamber having an opening in its side which is normally closed by a door, a support arranged in said chamber, an egg-tray which is provided with openings underneath the eggs and which is movable from said support laterally through said opening in the chamber, and an illuminating device arranged to illuminate the space below the path of the egg-tray, substantially as set forth.

25. An incubator comprising an incubating-chamber having an opening in its side, a door normally closing said opening and hinged at its lower end to the chamber so that the same can be shifted into a horizontal position, a support arranged in said chamber, an egg-tray having openings in its bottom over which the eggs are adapted to rest and movable from said support laterally through said side opening of the chamber, and electric lamps arranged on the lower part of said door in position to be moved underneath the lateral path of the tray when the door is opened, substantially as set forth.

26. An incubator comprising a plurality of incubating-chambers, an endless carrier movable through said chambers, frames mounted on said carrier, and egg-trays removably supported on said frames, substantially as set forth.

27. An incubator comprising a plurality of incubating-chambers, a pair of endless chain belts movable parallel through said chambers, transverse supporting-rods connecting said belts at intervals, skeleton frames provided at their tops with transverse guideways and on opposite sides with hooks for engaging with two adjacent supporting-rods, and egg-trays supported in the ways of said frames, substantially as set forth.

28. An incubator comprising an upper and a lower horizontal series of incubating-chambers, an endless carrier constructed to move forwardly through one series of chambers and backwardly through the other series of chambers, and egg-trays adapted to be supported on said carrier, substantially as set forth.

29. An incubator comprising an upper series of sections and a lower series of sections, each section containing an incubating-chamber, an endless carrier consisting of chain belts which pass horizontally forward through one series of sections, thence vertically through the sections at one end of both series, thence horizontally backward through the other series of sections, and thence vertically through the sections at the other end of both series, and egg-trays supported on said carrier, substantially as set forth.

30. An incubator comprising a plurality of sections which are identical in construction and interchangeable and each of which contains an incubating-chamber, and means for supporting an egg-tray within the chamber, substantially as set forth.

31. An incubator comprising a plurality of sections each of which contains an incubating-chamber, means for supporting an egg-tray within said chamber, and an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of said chamber, the outer wall of said conduit being adjustable laterally for varying the air-supply, substantially as set forth.

32. An incubator comprising a plurality of sections some of which are identical in construction and interchangeable and each of which contains an incubating-chamber, means for supporting an egg-tray within the chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of the incubating-chamber, and a heater arranged in said air-supply conduit, substantially as set forth.

33. An incubator comprising a plurality of sections each of which contains an incubating-chamber, means for supporting an egg-tray within the chamber, an upright air-supply conduit having an air-inlet at its lower end and communicating at its upper end with the top of the incubating-chamber, a heater arranged in said chamber, a heater arranged in said conduit, and means for controlling one of said heaters and means for detachably connecting said sections, substantially as set forth.

Witness my hand this 28th day of December, 1904.

FRANK CLINTON PERKINS.

Witnesses:
THEO. L. POPP,
E. M. GRAHAM.

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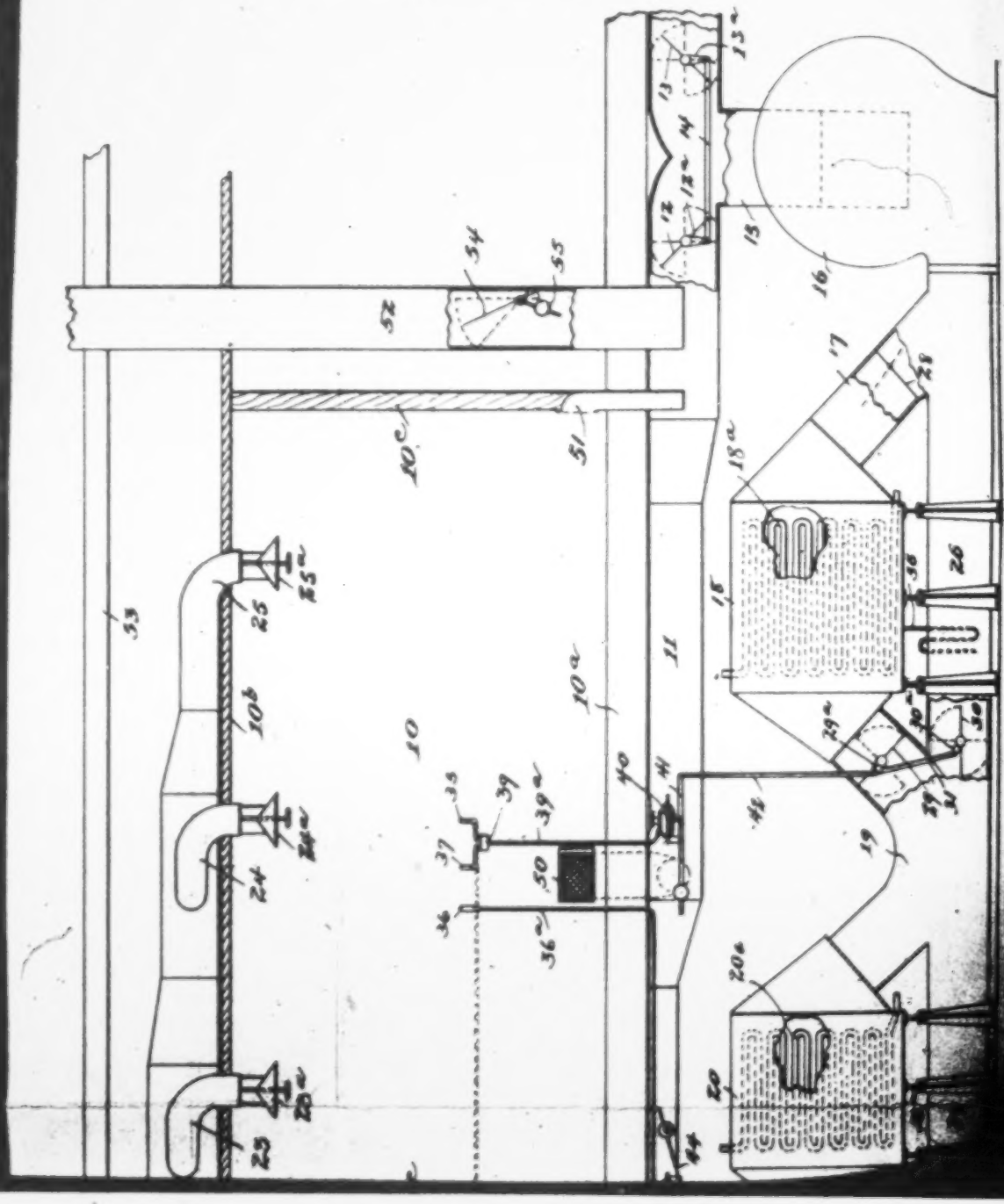
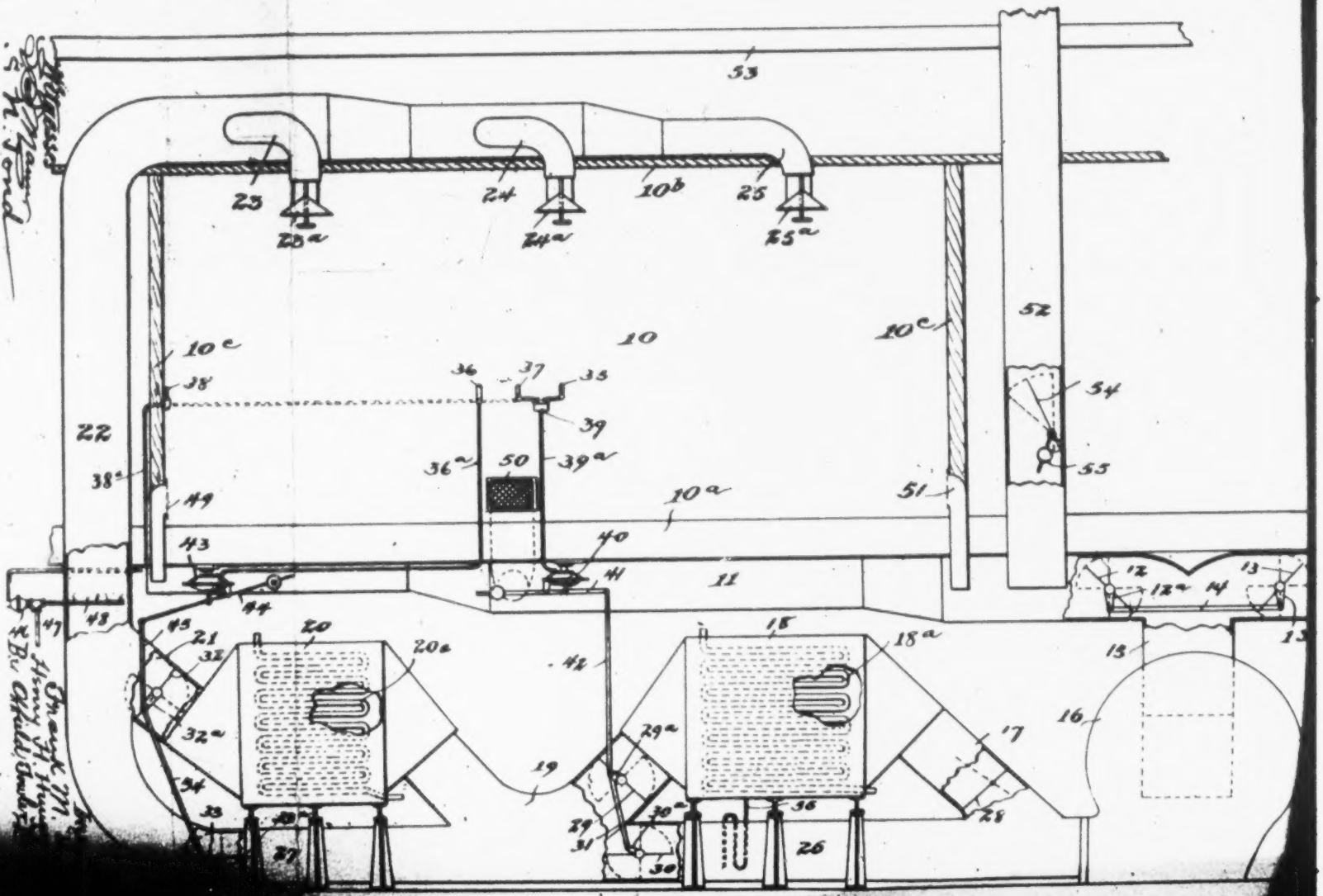
No. 843,909. PATENTED FEB. 12, 1907.

F. M. PETERS & H. H. HUNGERFORD.

ATMOSPHERE REGULATING SYSTEM.

APPLICATION FILED JUNE 8, 1903.

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UNITED STATES PATENT OFFICE.

FRANK M. PETERS AND HENRY H. HUNGERFORD, OF CHICAGO, ILLINOIS; SAID HUNGERFORD ASSIGNOR TO SAID PETERS.

ATMOSPHERE-REGULATING SYSTEM.

No. 843,909. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed June 8, 1903. Serial No. 160,620.

To all whom it may concern:

Be it known that we, FRANK M. PETERS and HENRY H. HUNGERFORD, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Atmosphere-Regulating Systems, of which the following is a specification.

Our invention relates to improvements in systems and devices for regulating atmospheric conditions, and more particularly to a system which includes as features thereof means for controlling and regulating the temperature, the humidity, and the ventilation, any or all, of the room or chamber subjected to the influence of the apparatus.

Experience has shown that in bakeries, breweries, and similar establishments certain processes of manufacture or certain steps therein require a more or less protracted maintenance of atmospheric conditions of substantial uniformity as regards temperature, humidity, and ventilation, or any or all of these conditions, while in school-houses, hospitals, theaters, and the like it is also desirable and advantageous, for a variety of reasons, to maintain substantial uniformity of such atmospheric conditions.

In carrying out our invention we employ means for maintaining a circulation of air through a room or chamber, which means are regulable to maintain a constant flow of fresh air, a flow of fresh air in association with air that has already passed through the apartment, or a continuous circulation and reuse of the same or substantially the same body of air, and in connection therewith we employ thermostatically and humidostatically controlled agencies for maintaining substantially constant a desired character or condition of the air circulated with reference to temperature and humidity.

which (the right-hand end as herein shown) leads to the external atmosphere, such end of the duct being controlled by a pair of dampers 12 and 13, the spindles of which are connected to operate in unison by arms 12^a and 13^a, respectively, and a connecting-rod 14. The air-duct 11 between the damper-valves 12 and 13 is tapped by the intake-duct 15 of a fan or blower, (indicated at 16.) The discharge side of said blower has connected thereto a pipe-section 17, leading into a box or cylinder 18, containing a series of cooling-coils, (indicated at 18^a,) whence a second curved pipe extension 19 leads into a second box or cylinder 20, containing a series of heating-coils, (indicated at 20^a,) whence a short section 21 communicates with an air-conduit pipe 22, leading up behind one end of the apartment and above the ceiling thereof, said pipe terminating in a group of discharge branches 23, 24, and 25, depending through the ceiling, said discharge-pipes preferably being provided with deflectors 23^a, 24^a, and 25^a, respectively, designed to regulate the volume of air discharged into the apartment and likewise to thoroughly disperse and diffuse the same.

Between the pipe-sections 17 and 19 is a by-pass 26 around the air-cooler 18, and between the sections 19 and the function of the sections 21 and 22 is a second by-pass 27 around the air-heater 20. In the pipe-section 17 is interposed a balanced valve or damper 28, which is normally closed except when the current of air is to be directed through the cooler 18, while the adjacent ends of the section 19 and by-pass 26 are provided with damper-valves 29 and 30, respectively, the spindles of which are connected to operate in unison by arms 29^a and 30^a and a connecting-link 31 and so set that when either is wide open the other is closed.

No. 843,909. Specification of Letters Patent. Patented Feb. 12, 1907.

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To all whom it may concern:

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Experience has shown that in bakeries, breweries, and similar establishments certain processes of manufacture or certain steps therein require a more or less protracted maintenance of atmospheric conditions of substantial uniformity as regards temperature, humidity, and ventilation, or any or all of these conditions, while in school-houses, hospitals, theaters, and the like it is also desirable and advantageous, for a variety of reasons, to maintain substantial uniformity of such atmospheric conditions.

In carrying out our invention we employ means for maintaining a circulation of air through a room or chamber, which means are regulable to maintain a constant flow of fresh air, a flow of fresh air in association with air that has already passed through the apartment, or a continuous circulation and reuse of the same or substantially the same body of air, and in connection therewith we employ thermostatically and humidostatically controlled agencies for maintaining substantially constant a desired character or condition of the air circulated with reference to its temperature and humidity.

Our invention is graphically shown in the accompanying drawing, which represents in diagrammatic form the various agencies employed in carrying out our invention and their relation to each other.

Referring to the drawing, 10 may represent a room or apartment designed to be controlled as to its atmospheric condition.

10^a may represent the floor, 10^b the ceiling, and 10^c the side and end walls, of the apartment 10. Directly beneath the floor 10^a is an air return and vent duct 11, one end of which (the right-hand end as herein shown) leads to the external atmosphere, such end of the duct being controlled by a pair of dampers 12 and 13, the spindles of which are connected to operate in unison by arms 12^a and 13^a, respectively, and a connecting-rod 14. The air-duct 11 between the damper-valves 12 and 13 is tapped by the intake-duct 15 of a fan or blower, (indicated at 16.) The discharge side of said blower has connected thereto a pipe-section 17, leading into a box or cylinder 18, containing a series of cooling-coils, (indicated at 18^a,) whence a second curved pipe extension 19 leads into a second box or cylinder 20, containing a series of heating-coils, (indicated at 20^a,) whence a short section 21 communicates with an air-conduit pipe 22, leading up behind one end of the apartment and above the ceiling thereof, said pipe terminating in a group of discharge branches 23, 24, and 25, depending through the ceiling, said discharge-pipes preferably being provided with deflectors 23^a, 24^a, and 25^a, respectively, designed to regulate the volume of air discharged into the apartment and likewise to thoroughly disperse and diffuse the same.

Between the pipe-sections 17 and 19 is a by-pass 26 around the air-cooler 18, and between the sections 19 and the junction of the sections 21 and 22 is a second by-pass 27 around the air-heater 20. In the pipe-section 17 is interposed a balanced valve or damper 28, which is normally closed except when the current of air is to be directed through the cooler 18, while the adjacent ends of the section 19 and by-pass 26 are provided with damper-valves 29 and 30, respectively, the spindles of which are connected to operate in unison by arms 29^a and 30^a and a connecting-link 31 and so set that when either is wide open the other is closed. Similarly, in the pipe 21 and by-pass 27 are interposed damper-valves 32 and 33, respectively, the spindles of which are connected to operate in unison by arms 32^a and 33^a and a connecting-rod 34, said valves also being so set that when one is fully opened the other is closed.

In the apartment 10 are suitably located a pair of thermostats, the exposed parts of which are indicated at 35 and 36, and a pair of humidostats, the exposed parts of which are indicated at 3 and 38. The thermostat

35 and humidostat 37 may operate through a cumulative controller (indicated at 39) and a pressure-pipe 39ª on a diaphragm-chamber 40, the diaphragm of which latter is connected, through a counterweighted lever 41 and link 42, with the rod 31, connecting the damper-valves 29 and 30. The thermostat 36 is similarly connected, through its pressure-pipe 36ª, diaphragm-chamber 43, a counterweighted lever 44, and link 45, with the rod 34, connecting the damper-valves 32 and 33. The humidostat 38, through its pressure-pipe 38ª and valve 46, governs the admission of a steam-jet through a pipe 47 and nozzle 48, which enters the air-conduit at any suitable point between the air-blower and the chamber, said nozzle being herein shown as penetrating the lower end of the section 22 in such a manner as to discharge the steam-vapor directly into the current of air traveling therethrough.

The outlet for the air in the apartment 10 is provided for by one or more flues 49, 50, and 51, opening through the inner surfaces of the side and end walls of the apartment and leading thence through the floor into the return and vent duct 11. A vent-pipe 52 at its lower end taps the duct 11 inwardly of the innermost damper-valve 12, said pipe extending through the ceiling of the apartment and through the superposed roof of the building, (indicated at 53.) At any suitable point in the vent-pipe 52 is placed a balanced damper-valve 54, the counterweight 55 of which is so arranged as to normally maintain the valve closed, but permit it to open more or less, accordingly as the return-passage for the air to the fan is closed or opened. The cooler box or cylinder has tapping its bottom a trapped discharge-pipe 56 for a purpose hereinafter described.

The operation of our improved system of atmosphere regulation is substantially as follows: Assuming that the damper-valves 12 and 13 are so set as to close the valve 12 and open wide the valve 13 and the fan having been set in operation, a current of fresh air from outside is drawn into and forced through the fan. Assuming that this air is at or substantially at the predetermined temperature desired within the apartment 10 to which the thermostats have been set, the latter will so operate as to maintain closed the valves 29 drawn from outside through the fan exceeds the desired temperature limit of the chamber 10, the thermostat indicated at 35 promptly reverses the dampers 29 30, thus causing the current of air from the blower to pass through the cooler 18, the closing of the damper 30 creating sufficient pressure to open the balanced valve 28 and permit the flow of air past the same. If, on the other hand, the air from outside is cooler than is desired to be maintained in the chamber 10, the thermostat indicated at 36 acts to reverse the valves 32 and 33, thereby causing a current of air emerging from the by-pass 26 to travel through the heater 20. By means of the steam-pipe 47 and jet 48 a supply of aqueous vapor may be furnished to the current of air on its way to the apartment, and if the incoming air proves to be too dry or if its travel through the cooler 18 has extracted too much of the humidity therefrom the current of air can be moistened to the required degree by this means, which is controlled by the humidostat 38 acting, through its valve 46, to admit the supply of steam-vapor. If, on the other hand, the entering air contains an undue percentage of moisture, the humidostat 37 acts on the valves or dampers 29 and 30 to direct the air-current through the cooler 18, by which the moisture in the air is partially or wholly condensed, the deposited moisture being drained off through the pipe 56. Should this operation have the effect of too greatly cooling the air, the thermostat 36 will act at the same time upon the valves 32 and 33 to direct the dried cold current of air through the heater 20.

The thermostat 35 and humidostat 37 control independent valves that admit compressed air through the pipe 39ª to the diaphragm-chamber 40. If the conditions in the chamber 10 are too hot and too moist, both valves will open, admitting compressed air cumulatively to the diaphragm-chamber, and thereby shifting the dampers to direct the incoming air through the cooler, which is also a condenser and extracts the moisture. If the conditions in chamber 10 are too cold and too dry, neither the thermostat 35 nor the humidostat 37 will act, but these conditions will be regulated by the thermostat 36 and the humidostat 38. If the air in chamber 10 is too hot, but hygroscopic

per-valves 29 and 30. The thermostat 36 is similarly connected, throughits pressure-pipe 36^a, diaphragm-chamber 43, a counter-weighted lever 44, and link 45, with the rod 34, connecting the damper-valves 32 and 33. The humidostat 38, through its pressure-pipe 38^a and valve 46, governs the admission of a steam-jet through a pipe 47 and nozzle 48, which enters the air-conduit at any suitable point between the air-blower and the chamber, said nozzle being herein shown as penetrating the lower end of the section 22 in such a manner as to discharge the steam-vapor directly into the current of air traveling therethrough.

The outlet for the air in the apartment 10 is provided for by one or more flues 49, 50, and 51, opening through the inner surfaces of the side and end walls of the apartment and leading thence through the floor into the return and vent duct 11. A vent-pipe 52 at its lower end taps the duct 11 inwardly of the innermost damper-valve 12, said pipe extending through the ceiling of the apartment and through the superposed roof of the building, (indicated at 53.) At any suitable point in the vent-pipe 52 is placed a balanced damper-valve 54, the counterweight 55 of which is so arranged as to normally maintain the valve closed, but permit it to open more or less, accordingly as the return-passage for the air to the fan is closed or opened. The cooler box or cylinder has tapping its bottom a trapped discharge-pipe 56 for a purpose hereinafter described.

The operation of our improved system of atmosphere regulation is substantially as follows: Assuming that the damper-valves 12 and 13 are so set as to close the valve 12 and open wide the valve 13 and the fan having been set in operation, a current of fresh air from outside is drawn into and forced through the fan. Assuming that this air is at or substantially at the predetermined temperature desired within the apartment 10 to which the thermostats have been set, the latter will so operate as to maintain closed the valves 29 and 32 and maintain open the valves 30 and 33, under which condition of the apparatus the current will flow directly through the by-passes 26 and 27, the section 22, and the discharge-sections 23, 24, and 25 into the chamber 10, the air passing thence through the discharge-flues 49, 50, and 51 into the return and vent duct 11, whence the current rises and passes off through the vent-pipe 52, the force of the current being sufficient to swing the balanced valve 54 open sufficiently to permit its passage. If, however, the air creating sufficient pressure to [illegible] anced valve 28 and permit the flow of [illegible] past the same. If, on the other hand, the air from outside is cooler than is desired to be maintained in the chamber 10, the thermostat indicated at 36 acts to reverse the valves 32 and 33, thereby causing a current of air emerging from the by-pass 26 to travel through the heater 20. By means of the steam-pipe 47 and jet 48 a supply of aqueous vapor may be furnished to the current of air on its way to the apartment, and if the incoming air proves to be too dry or if its travel through the cooler 18 has extracted too much of the humidity therefrom the current of air can be moistened to the required degree by this means, which is controlled by the humidostat 38 acting, through its valve 46, to admit the supply of steam-vapor. If, on the other hand, the entering air contains an undue percentage of moisture, the humidostat 37 acts on the valves or dampers 29 and 30 to direct the air-current through the cooler 18, by which the moisture in the air is partially or wholly condensed, the deposited moisture being drained off through the pipe 56. Should this operation have the effect of too greatly cooling the air, the thermostat 36 will act at the same time upon the valves 32 and 33 to direct the dried cold current of air through the heater 20.

The thermostat 35 and humidostat 37 control independent valves that admit compressed air through the pipe 39^a to the diaphragm-chamber 40. If the conditions in the chamber 10 are too hot and too moist, both valves will open, admitting compressed air cumulatively to the diaphragm-chamber, and thereby shifting the dampers to direct the incoming air through the cooler, which is also a condenser and extracts the moisture. If the conditions in chamber 10 are too cold and too dry, neither the thermostat 35 nor the humidostat 37 will act, but these conditions will be regulated by the thermostat 36 and the humidostat 38. If the air in chamber 10 is too hot, but hygroscopically correct, the thermostat 35 alone will act, the humidostat 37 being idle. On the other hand, if the air in the chamber 10 is too moist, but of correct temperature, the humidostat 37 will act and the thermostat 35 will be idle. It will thus be seen that the thermostat 35 and humidostat 37 control only the positive conditions of temperature and humidity, while the negative conditions are controlled by the other pair 36 and 38. In other words, one of the thermostats controls the rising and the other the falling of the temperature.

tively to a given point or degree, while, similarly, one of the humidostats controls the increase and the other the decrease of humidity relatively to a given point or percentage of the same. There is no interference in the action of these parts, since the humidostat of either pair will promptly act to correct any change of hygroscopic conditions incidentally created by the action of the thermostat of the other pair, and vice versa.

Under some conditions it is feasible and practicable in order to a void the necessity of either heating or cooling a stream of air constantly flowing from the outside to maintain a closed circulation of the air in the apartment, and this may readily be done by reversing the valves 12 and 13, to open the former and close the latter. In this case the air-current discharged from the apartment through the return-duct 11 is obviously reconveyed to the inlet-pipe of the blower and forced thence to and through the circulation-pipes and the apartment in a continuous and closed circuit. In this case, there being no pressure on the valve 54 in the vent 52, this valve automatically closes and prevents the induction of external air through said vent. In still other circumstances it may be feasible and desirable to maintain in part a closed circuit, permitting the introduction, however, of a certain proportion of external air. For this purpose the valves 12 and 13 may be set partially open to any desired extent or degree, as shown by the full lines in the drawing, in which case the blower draws in air from both the return and vent duct 11 and from the outer atmosphere, a certain portion of the air discharged from the apartment rising through the vent 52.

From the foregoing it will be seen that our invention provides a system of ventilation which not only maintains a constant and uniform flow of air through an apartment or storage-chamber and a consequent constant change of the air therein, but may also provide for the maintenance of constant and uniform thermal or hygroscopic conditions, or both, within said apartment, irrespective of such conditions prevailing outside. Obviously for the preservation of goods and materials susceptible to deterioration and injury through thermal and hygroscopic changes a such as our invention provides fills

the air-conduits, the heater, the cooler, the moistener, and other appurtenances of the system, might be employed without departing from the spirit or lessening the advantages of the invention, and hence we do not limit ourselves to the particular construction or relative arrangement of the elements of the system as shown and described, except to the extent indicated in specific claims.

We claim—

1. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of an air-heater interposed in said conduit, a by-pass around said heater, an air-cooler also interposed in said conduit, a by-pass around said cooler, and separate thermostatically-operated means serving to control the passage of the air-current through said heater and cooler and their respective by-passes respectively according to the temperature in the room, one of said means operating when the maximum and the other when the minimum desired temperature is attained, substantially as described.

2. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of an air-cooler interposed in said conduit, a by-pass around said cooler, an air-heater also interposed in said conduit, a by-pass around said heater, thermostatically-operated means serving to control the passage of the air-current through said heater and cooler and their by-passes according to the temperature in the room, and humidostatically-controlled means also serving to control the passage of the air-current through said cooler, substantially as described.

3. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of a moisture-condenser interposed in said conduit, a by-pass around said condenser, and means operated by a humidostat located in the room serving to direct the air-current through said condenser or said by-pass, substantially as described.

4. In an atmosphere-regulating system for rooms, the combination with an air-forcing

of hygroscopic conditions incidentally created by the action of the thermostat of the other pair, and vice versa.

Under some conditions it is feasible and practicable in order to a void the necessity of either heating or cooling a stream of air constantly flowing from the outside to maintain a closed circulation of the air in the apartment, and this may readily be done by reversing the valves 12 and 13, to open the former and close the latter. In this case the air-current discharged from the apartment through the return-duct 11 is obviously reconveyed to the inlet-pipe of the blower and forced thence to and through the circulation-pipes and the apartment in a continuous and closed circuit. In this case, there being no pressure on the valve 54 in the vent 52, this valve automatically closes and prevents the induction of external air through said vent. In still other circumstances it may be feasible and desirable to maintain in part a closed circuit, permitting the introduction, however, of a certain proportion of external air. For this purpose the valves 12 and 13 may be set partially open to any desired extent or degree, as shown by the full lines in the drawing, in which case the blower draws in air from both the return and vent duct 11 and from the outer atmosphere, a certain portion of the air discharged from the apartment rising through the vent 52.

From the foregoing it will be seen that our invention provides a system of ventilation which not only maintains a constant and uniform flow of air through an apartment or storage-chamber and a consequent constant change of the air therein, but may also provide for the maintenance of constant and uniform thermal or hygroscopic conditions, or both, within said apartment, irrespective of such conditions prevailing outside. Obviously for the preservation of goods and materials susceptible to deterioration and injury through thermal and hygroscopic changes a system such as our invention provides fills an important place. Similarly, in hospitals, school-houses, theaters, or other inclosed places or apartments where a great number of persons may congregate or where it is essential for the comfort and health of human beings to have perfectly-controlled atmospheric conditions such conditions may be insured by the employment of the apparatus or system herein shown.

It is evident that numerous changes and modifications, particularly in the relative detail arrangement of the air-forcing device, or relative arrangement of the elements of the system as shown and described, except to the extent indicated in specific claims.

We claim—

1. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of an air-heater interposed in said conduit, a by-pass around said heater, an air-cooler also interposed in said conduit, a by-pass around said cooler, and separate thermostatically-operated means serving to control the passage of the air-current through said heater and cooler and their respective by-passes respectively according to the temperature in the room, one of said means operating when the maximum and the other when the minimum desired temperature is attained, substantially as described.

2. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of an air-cooler interposed in said conduit, a by-pass around said cooler, an air-heater also interposed in said conduit, a by-pass around said heater, thermostatically-operated means serving to control the passage of the air-current through said heater and cooler and their by-passes according to the temperature in the room, and humidostatically-controlled means also serving to control the passage of the air-current through said cooler, substantially as described.

3. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of a moisture-condenser interposed in said conduit, a by-pass around said condenser, and means operated by a humidostat located in the room serving to direct the air-current through said condenser or said by-pass, substantially as described.

4. In an atmosphere-regulating system for rooms, the combination with an air-forcing device and a conduit extending from the discharge side thereof to and through a wall of the room, of a moisture-condenser interposed in said conduit, a by-pass around said condenser, means operated by a humidostat located in the room serving to direct the air-current through said condenser when the humidity of the air in the room exceeds a predetermined point, a vapor-injector interposed in said conduit, and means operated by the humidostat located in the room serving

to admit vapor through said injector when the humidity of the air in the room falls below a predetermined point, substantially as described.

5. In an atmosphere-regulating system designed to maintain substantially constant temperature and humidity conditions in a room, the combination with an air conduit or circuit in which the room is interposed, of an air-forcing device in said conduit, air heating and cooling means also interposed in said conduit, valve-controlled by-passes around the same, thermostatically-controlled means for controlling the engagement of the circulating current with said heating and cooling means, and humidostatically-controlled means for injecting steam or other vapor into the circulating air-current, substantially as described.

6. In an atmosphere-regulating system designed to maintain substantially constant temperature and humidity conditions in a room, as well as to control the ventilation thereof, the combination with an air conduit or circuit in which the room is interposed, of an air-forcing device in said conduit, air heating and cooling means also interposed in said circuit, valve-controlled by-passes around the same, thermostatically-controlled means for controlling the engagement of the circulating current with said heating and cooling means, humidostatically-controlled means for controlling the engagement of the circulating current with said cooling means, and other humidostatically-controlled means for extracting moisture from said air-current, air inlet and outlet passages also communicating with said circuit, and means whereby the circuit may be maintained open, closed, or partially opened and closed relatively to the outer air, substantially as described.

7. In an atmosphere-regulating system for rooms, the combination with an air conduit or circuit in which the room is interposed, of an air-forcing device in said circuit, the intake member of said air-forcing device having means whereby it may be connected wholly with the circuit or wholly with the external atmosphere, or partially with both, air heating and cooling means interposed in said circuit, valve-controlled by-passes around the same, separate thermostatically-controlled means for controlling the engagement of the circulating current with said heating and cooling means respectively, and a vent-pipe tapping said conduit between the room and the air-forcing device, substantially as described.

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Witnesses:
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